2013 – 2014 CATALOG

One Vision, Five Campuses

Wayne County Community College District

www.wcccd.edu
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.
**INTRODUCTION**

The Wayne County Community College District (WCCCD) is accredited by the Higher Learning Commission of the North Central Association of Colleges and Schools, 230 South LaSalle Street, Suite 7-500, Chicago, Illinois 60604; 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. The Wayne County Community College District (WCCCD) is accredited by the Higher Learning Commission on Accreditation of Allied Health Education programs (www.caahp.org) upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting programs. The Surgical Technology and Surgical Assisting programs are accredited by the following agencies:

- **American Dental Association**
  - Commission on Dental Accreditation (CODA)
    - 211 E. Chicago Ave.
    - Chicago, IL 60611-2678
    - (312) 440-2500 Fax: (312) 440-7461
    - www.coda.org
- **American Veterinary Medical Association**
  - 1931 North Meacham Road, Suite 100
  - Schaumburg, IL 60173-4360
  - (800) 248-2862 Fax: (847) 925-1329
  - www.avma.org
- **American Society of Health Systems Pharmacists**
  - 7272 Wisconsin Ave.
  - Bethesda, MD 20814
  - (301) 657-3000
  - www.ashp.org
- **Department of Licensing and Regulatory Affairs (LARA)**
  - P.O. Box 30003
  - Lansing, MI 48909
  - (517) 373-1820
- **Michigan Commission on Law Enforcement Standards (MCOLES)**
  - 106 W. Allegan, Suite 600
  - Lansing, MI 48909
  - (517) 322-1417 Fax: (517) 322-5611
- **Michigan Correctional Officer’s Training Council**
  - 7150 Harris Drive
  - Lansing, MI 48913
  - (517) 334-6573
- **Michigan Department of Community Health**
  - EMS & Trauma Systems Section
  - Capitol View Building, 6th Floor
  - 201 Townsend Street
  - Lansing, MI 48913
  - (517) 241-3024 Fax: (517) 241-9458
  - www.michigan.gov/mdch
- **Michigan Department of Corrections**
  - 206 E. Michigan Ave.
  - Grandview Plaza
  - P.O. Box 30003
  - Lansing, MI 48909
  - (517) 335-1426
- **National Automotive Technicians Education Foundation**
  - 101 Blue Seal Drive, Suite 101
  - Leesburg, VA 20175
  - (703) 669-4650
- **Michigan Firefighter Training Council**
  - 525 W. Allegan St.
  - Lansing, MI 48933
  - (517) 241-8847 Fax: (517) 322-4061
- **Michigan Freighter Training Council Bureau of Fire Services/OFFT**
  - 525 W. Allegan St.
  - Lansing, MI 48933
  - (517) 241-8847 Fax: (517) 322-4061
- **State of Michigan Department of Consumer & Industry Services Division of Federal Support Services**
  - P.O. Box 30193
  - Lansing, MI 48909
  - (517) 335-0918 Fax: (517) 373-2179
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  - P.O. Box 30193
  - Lansing, MI 48909
  - (517) 335-0918 Fax: (517) 373-2179
- **Michigan Firefighter Training Council Bureau of Fire Services/OFFT**
  - 525 W. Allegan St.
  - Lansing, MI 48933
  - (517) 241-8847 Fax: (517) 322-4061

**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**

- Supporting Excellence In Teaching and Learning
- Honoring Diversity
- Serving The Common Good
- Being Accountable
- Operating With 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 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 MANAGE 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 45 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 “College without Walls” opened its doors with an overwhelming response by community members.

In 1997, Wayne County Community College’s institutional name was changed to “Wayne County Community College District”, and the District’s CEO position title was changed from President to “Chancellor”.

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.
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 70% are women and more than 50% are members of minority groups. While some 90% are Michigan residents, citizens from more than 30 countries are also enrolled in programs of study at the District. Nearly 70% of all WCCCD students attend part-time.

The student body is reflective of the diverse constituency served by the District. Approximately 70% 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

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 31,000 students, and approximately 551,000 have furthered their careers or enriched their lives through continuing education programs offerings.

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ENROLLMENT MANAGEMENT, STUDENT SERVICES AND ACADEMIC POLICIES

ADMISSIONS

Admission

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 complete an online orientation. 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. Upon registration for any academic class students will automatically be provided with a WCCCD student e-mail account. Students can access their email by logging into their WebGate account at https://webgate.wcccd.edu and clicking on View Your WCCCD email Address under Main Menu. All official college communication to students will come through WCCCD student e-mail accounts. WCCCD students will be responsible for communications sent to this address. It is the student’s responsibility to frequently check both their email and WebGate accounts for important announcements and updates.

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 18 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.
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 encourages applicants for admission from qualified persons around the world and values the diversity that international students bring to campus. A vibrant international student population translates to a stronger multicultural experience for all students.

The District is authorized under Federal law to enroll non-immigrant alien students on the “F-1” student visa. Wayne County Community College District follows requirements set forth by the United States Department of Homeland Security. Each requirement must be satisfied before admission as an International Student is considered. International applicants should visit the website for application deadlines and a list of credentials needed for a complete application to be considered at:

www.wcccd.edu/students/inter_admission.htm

Senior Citizens

Citizens who are residents of the district and 60 years of age or older may enroll in academic classes 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. Continuing Education classes or classes leading to Continuing Education Certificates are not included in this tuition waiver. 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

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 information please visit vcampus.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. Students may be exempt from placement testing and orientation for up to 9 credit hours for personal interest. 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. All Dual/Concurrent Enrollment students registering for Math or English courses must take the COMPASS Assessment test. 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 (ESL)

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.
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 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 the 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.gov, 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 due to notification from the U.S. Department of Education, 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.

Information is also available on the following websites:
- Wayne County Community College District: www.wcccd.edu

The types of financial assistance include the following:
- Federal Pell Grant
- Teacher Education Assistance for College and Higher Education Grant (TEACH)
- Federal Supplemental Educational Opportunity Grant (SEOG)
- Federal Work Study
- Federal Direct Student Loan
- Iraq and Afghanistan Service Grant

The terms and conditions for each type of financial assistance are available online by clicking on the Financial Aid tab on the District’s website at www.wcccd.edu. 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 evaluate Satisfactory Academic Progress each academic year.

At each evaluation, a student’s progress will be measured on the following elements:

Qualitative Requirement
Cumulative GPA Requirement:
The District Financial Aid Office will review the qualitative progress after each academic year. In order to continue to receive financial aid, a student must maintain a cumulative GPA of at least 2.0.

Quantitative Requirements:
Maximum Timeframe:
Students must complete an undergraduate or eligible certificate program of study within 150% of the published credit hours required to complete the program. If the program requires 60 credit hours for completion, the maximum timeframe is 90. If the program requires 44 credit hours, the maximum time frame is 66 credit hours.

Pace of Progress:
Students should successfully complete at least 67% of the credit hours attempted. If a student earns 67% of all credit hours attempted, the student should complete the program within the maximum time frame. The pace that a student completes their program is calculated by dividing the cumulative hours the student successfully completed by the cumulative hours they attempted.

Additionally, transfer credit hours from another school, as well as repeated and developmental classes, are counted as credit hours attempted and completed. Withdrawal grades and incomplete grades are counted as credit hours attempted. Students seeking a second Associates Degree or certificate who are not meeting the quantitative standard, and want to be considered for financial aid eligibility, will need to submit a Satisfactory Academic Progress (SAP) appeal.

Appeal Process
Students who have been disqualified for financial aid are ineligible to receive financial aid and will not receive aid for the following, or future semesters. Students that were impacted by significant circumstances that caused them to be unable to meet satisfactory academic progress standards which resulted in their disqualification have the option of submitting a SAP Appeal for review by the SAP Committee for consideration for approval and reinstatement of aid eligibility. The SAP Committee considers the student’s written appeal, supporting documentation, and federal regulations when making their determination. Please see the financial aid web site at www.wcccd.edu for additional information on filing an appeal as well as accessing the online form.

If the appeal is approved, the student may be granted probation for one semester. Some students may be required to follow an academic plan to ensure program progression. That plan will be reviewed after each semester. Financial aid eligibility is terminated for students who did not satisfy their probationary term or fulfill their academic plan.

All SAP decisions are sent to students’ WCCCD email accounts and posted to WebGate.

Regaining Eligibility
Students who lose their financial aid eligibility because they fail to meet satisfactory academic progress will regain eligibility when it is determined that they are again meeting both the qualitative and quantitative standards. They are
responsible for the payment of tuition and fees until financial aid eligibility is regained. When satisfactory academic progress standards are met, eligibility is regained for subsequent terms of enrollment.

Developmental Courses
Repeated and developmental courses are added into credits attempted and are used in the calculation of attempted credits versus completed credits. Up to 30 credits of combined developmental and ESL courses can be funded year. The calculation of the duration of a student's receipt of Federal Pell Grant funding.

Eligibility is regained for subsequent terms of enrollment with federal student aid. Developmental and ESL courses can be funded for a student at the beginning of each 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.

Military Service

Veteran Affairs
The Veteran Affairs office is located in the District Admissions and 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 who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation. A veteran who allows his or her accumulated GPA to fall below 2.0 will be placed on probation.

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 receipt, or state identification card.

Residency is established at time of registration. Wayne County Community College District reserves the right to make final decisions on residency eligibility.

Special Residency
Children of deceased, 100% disabled, or missing Michigan veterans, between the ages of 16 and 22 and who are state resident for 12 months, per the State of Michigan statutes, may receive free tuition and fees for 36 months at State-supported colleges.

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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records. 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 Records.

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.*Refer to the current Academic Schedule for fees.

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, 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 choose the deferred tuition payment plan must pay a minimum of 65% of total tuition and fee(s) for the current term. Payments may be made by money order, check, debit card, Visa, MasterCard, Discover Card, American Express or ATM debit card. *Refer to the current Academic Schedule for fees.

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.
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.

*Refer to the current Academic Schedule for fees.

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 your tuition and fees at the time of registration. You must officially withdraw from your classes by completing an ADD/DROP FORM.

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. Auditing a course can only be done during walk-in registration. Students must complete a registration form in order to audit a course.

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. Students have an opportunity to repeat completed courses (for no additional credit) in which they would like to improve their grade point average three times after the initial enrollment. If a class is repeated, each grade received will remain on the transcript, but the highest grade awarded will be used in calculating the grade point average.

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.

MILITARY REFUND POLICY

A student belonging to the Armed Forces or the Michigan National Guard who is called to active duty will be allowed to withdraw from classes without penalty and receive a 100% refund of the student’s tuition and fees provided the student has not completed the course(s) for which the student is seeking a refund.

CAREER PLANNING AND PLACEMENT

The Career Planning and Placement Office offers 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.

Students and graduates 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 recreational, social, and family student activities. This may include guest speakers and special events. The District’s Phi Theta Kappa International Honor Society recognizes students who have achieved academic excellence. 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 Executive Council
The Student Executive Council is a governing body of students who represent the interests of the student body. As the official “student voice” of the Wayne County Community College District Student Executive Council is the liaison between the student population, faculty, and administration to promote the rights, education, and general welfare of all students at the college. The Student Executive Council consists of five students each appointed by a Campus President to serve a term of one academic year.

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 in writing. The Campus Academic Officer may institute action against a student according to procedures of due process outlined 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.

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
Psychology E = 0 x 3 credits = 0 grade points
Science A = 4 x 3 credits = 12 grade points

Total: 20 grade points in 5 attempts

Equation = (20 grade points / 5 attempts) = 4.0 GPA

Credit hours attempted for each class must be recorded on the official transcript.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
<td>Excellent</td>
</tr>
<tr>
<td>B</td>
<td>3.0</td>
<td>Above Average</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
<td>Average</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
<td>Below Average</td>
</tr>
<tr>
<td>E</td>
<td>0.0</td>
<td>Failure to complete course requirements satisfactorily</td>
</tr>
</tbody>
</table>

Transcript Codes Description

CR Credit by Examination
CPE Credit for Experience
AP Advanced Placement (Articulation)
P 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
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 provide 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 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.

Science A = 4 x 3 credits = 12 grade points

Total: 20 grade points in 5 attempts

Equation = (20 grade points / 5 attempts) = 4.0 GPA

Credit hours attempted for each class must be recorded on the official transcript.
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.

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.

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 (W, XW).
- Probationary Status: A student who has a cumulative GPA below 2.0 is placed on probationary status.

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 30 days of the conclusion of the semester or session during which the student was enrolled in the course where the challenged practice occurred.

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.

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 academic officer can provide students with the direction and the forms necessary to apply for credit by examination.
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 College Level Examination Program (CLEP) or Credit by Examination, 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 the Fire Academy, Police Academy, Emergency Medical Training, military service, 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 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS 999</td>
<td>EMS: Emergency Medical Training</td>
<td>4 credits</td>
</tr>
<tr>
<td>FAE 999</td>
<td>FAE: Fire Academy Experience</td>
<td>4 credits</td>
</tr>
<tr>
<td>MSE 999</td>
<td>MSE: Military Service Experience</td>
<td>4 credits</td>
</tr>
<tr>
<td>PAE 999</td>
<td>PAE: Police Academy Experience</td>
<td>4 credits</td>
</tr>
<tr>
<td>PCE 999</td>
<td>PCE: Peace Corps Experience</td>
<td>4 credits</td>
</tr>
<tr>
<td>VSE 999</td>
<td>VSE: VISTA Experience</td>
<td>4 credits</td>
</tr>
</tbody>
</table>

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 academic advisor to plan a program of study that school as well.
- Make certain you understand the freshman and sophomore level requirements of your intended major.
- Choose a transfer institution, make contact with an advisor at that school as well.
- 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.

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 advisor 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 (6 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.)
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 (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 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 Dean’s 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 on the Dean’s Honor List at their home campus by the President of their respective campus.
ACADEMIC SUPPORT AND DEGREE REQUIREMENTS

PLANING 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. Each Learning Center houses a wide range of equipment and materials to address various levels of learning difficulties. Students can access learning assistance technologies to support academic success.

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 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 who self disclose either a physical and/or cognitive disability must present written verification from a qualified physician, psychologist, psychiatrist or therapist. Documentation submitted for students with special needs is confidential and used solely for the purpose of assisting students in identifying and securing appropriate accommodations and service to enhance student’s success at WCCCD.

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 School of Continuing Education and Workforce Development offers 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
- Advanced manufacturing
- Innovative training solutions
- Leadership development
- Measurable training results
- Performance improvement
- Safety and health training

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 enrolled in Continuing Education courses that offer special guest lectures, seminars and workshops 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 specifically to meet the needs of business and industry.
For more information concerning any of the District’s distance learning opportunities, please contact The Center for Distance Education at distancelearning@wcccd.edu.

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 when a student is accepted into the program and enrolls in program courses.

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)
• Have a minimum grade point average of 2.0 upon completion.

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

CATALOG-IN-FORCE

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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)
• Have a minimum grade point average of 2.0 upon completion.

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

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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)
• Have a minimum grade point average of 2.0 upon completion.
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.
- 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.

Associate of Applied Science (A.A.S.) Degree:
This degree is designed to prepare students for immediate employment in specialized areas such as mechanical and engineering technologies, health, business and office technologies and human services.

The A.A.S. degree is usually considered for vocational technological and occupational fields leading directly to employment in such areas as nursing, criminal justice, aviation mechanics, child care, gerontology, mental health, addiction studies, drafting or computer technology. However, many WCCCD students with the A.A.S. degree transfer to four-year colleges to continue their education while working.

In order to receive the A.A.S. degree, students must:
1. Complete the "Requirements for All Degrees" as listed in each program
2. Refer to the specific A.A.S. degree program for the required program credits.
3. Adhere to the program course requirements for the specific A.A.S. degree desired

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:
   - ENG 119 .................................3 credits
   - Elective: any English course above ENG 119 .................................3 credits
   - Humanities ............................3 credits
   - Mathematics ...........................3 credits
   *Natural Science ..........................3 credits
   *ANT 153, DT 130 OR any course from AST, BIO, GEL, CHM, PHY
   PS 101 - American Government  .......3 credits

   Total General Education Credits: 18 credits +
   Electives ..................................42 credits

   Associate of General Studies Degree Program Total 60 credits

Associate of General Studies Degree Program Total 60 credits
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 have a minimum grade point average of 2.0 in the program upon completion. 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:

<table>
<thead>
<tr>
<th>Options:</th>
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</thead>
<tbody>
<tr>
<td>ENG 119 English I (required for all degrees plus one other English (ENG) course)</td>
</tr>
<tr>
<td>ENG 120 English II (required for the A.A., A.S. and other degree’s)</td>
</tr>
<tr>
<td>ENG 134 Technical Communications</td>
</tr>
<tr>
<td>ENG 260 Introduction to African-American Literature</td>
</tr>
<tr>
<td>ENG 261 African-American Literature in the Twentieth Century</td>
</tr>
<tr>
<td>ENG 270 Professional and Technical Report Writing</td>
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<tr>
<td>ENG 280 Creative Writing</td>
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</tbody>
</table>

II. Courses that satisfy the humanities requirements:

<table>
<thead>
<tr>
<th>Options:</th>
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</thead>
<tbody>
<tr>
<td>AAS 253 African-Caribbean Literature</td>
</tr>
<tr>
<td>ARA 101 Introduction to Arabic I</td>
</tr>
<tr>
<td>ARA 102 Introduction to Arabic II</td>
</tr>
<tr>
<td>ART 101 Drawing I</td>
</tr>
<tr>
<td>ART 102 Drawing II</td>
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<tr>
<td>ART 103 Drawing III</td>
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<tr>
<td>ART 111 Design I</td>
</tr>
<tr>
<td>ART 112 Design II</td>
</tr>
<tr>
<td>ART 115 Basic Drawing for Animation</td>
</tr>
<tr>
<td>ART 121 Painting I</td>
</tr>
<tr>
<td>ART 122 Painting II</td>
</tr>
<tr>
<td>ART 123 Painting III</td>
</tr>
<tr>
<td>ART 131 Ceramics I</td>
</tr>
<tr>
<td>ART 132 Ceramics II</td>
</tr>
<tr>
<td>ART 151 Sculpture I</td>
</tr>
<tr>
<td>ART 152 Sculpture II</td>
</tr>
<tr>
<td>ART 171 Printmaking I</td>
</tr>
<tr>
<td>ART 172 Printmaking II</td>
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<tr>
<td>ART 173 Printmaking III</td>
</tr>
<tr>
<td>ART 174 Printmaking IV</td>
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<tr>
<td>CHN 101 Introduction to Chinese</td>
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<tr>
<td>DAN 101 Modern Dance I</td>
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<tr>
<td>DAN 102 Modern Dance II</td>
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<tr>
<td>DAN 103 Modern Dance III</td>
</tr>
<tr>
<td>DAN 111 Ballet I</td>
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</tbody>
</table>

III. Courses that satisfy the academic group requirements (cont.):

<table>
<thead>
<tr>
<th>Options:</th>
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</thead>
<tbody>
<tr>
<td>DAN 115 African-American Dance</td>
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<tr>
<td>DAN 231 Choreography and Performance I</td>
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<tr>
<td>ENG 212 Women in Literature</td>
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<tr>
<td>ENG 228 Introduction to Folklore and Mythology</td>
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<tr>
<td>ENG 231 Introduction to Poetry</td>
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<tr>
<td>ENG 232 Introduction to the Novel</td>
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<tr>
<td>ENG 233 Introduction to Drama</td>
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<tr>
<td>ENG 234 The English Bible as Literature</td>
</tr>
<tr>
<td>ENG 240 Introduction to Shakespeare</td>
</tr>
<tr>
<td>ENG 250 American Literature, 1800-Present</td>
</tr>
<tr>
<td>ENG 252 English Literature Across the Centuries</td>
</tr>
<tr>
<td>ENG 260 Introduction to African-American Literature</td>
</tr>
<tr>
<td>ENG 261 African-American Literature in the Twentieth Century</td>
</tr>
<tr>
<td>ENG 265 African-Caribbean Literature</td>
</tr>
<tr>
<td>ENG 280 Creative Writing</td>
</tr>
<tr>
<td>ENG 285 Children’s Literature</td>
</tr>
<tr>
<td>ENG 290 Spanish American Literature</td>
</tr>
<tr>
<td>ENG 292 Latina Literature-The Past Decade</td>
</tr>
<tr>
<td>FRE 101 Elementary French I</td>
</tr>
<tr>
<td>FRE 102 Elementary French II</td>
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<tr>
<td>FRE 201 Intermediate French I</td>
</tr>
<tr>
<td>FRE 202 Intermediate French II</td>
</tr>
<tr>
<td>GRM 101 Introduction to German</td>
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<tr>
<td>HUM 102 Comparative Religions I</td>
</tr>
<tr>
<td>HUM 103 Comparative Religions II</td>
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<tr>
<td>HUM 201 Introduction to Philosophy</td>
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<tr>
<td>HUM 202 Introduction to Logic</td>
</tr>
<tr>
<td>HUM 241 Intro duction to Film</td>
</tr>
<tr>
<td>JPN 101 Elementary Japanese I</td>
</tr>
<tr>
<td>JPN 102 Elementary Japanese II</td>
</tr>
<tr>
<td>MUS 101 Fundamentals of Music I</td>
</tr>
<tr>
<td>MUS 102 Fundamentals of Music II</td>
</tr>
<tr>
<td>MUS 121 History of Jazz I</td>
</tr>
<tr>
<td>MWS 102 Muslim World Civilization</td>
</tr>
<tr>
<td>PHL 101 Comparative Religions I</td>
</tr>
<tr>
<td>PHL 102 Comparative Religions II</td>
</tr>
<tr>
<td>PHL 201 Introduction to Philosophy</td>
</tr>
<tr>
<td>PHL 202 Introduction to Logic</td>
</tr>
<tr>
<td>SPA 101 Elementary Spanish I</td>
</tr>
<tr>
<td>SPA 202 Intermediate Spanish II</td>
</tr>
<tr>
<td>SPA 203 Intermediate Spanish II</td>
</tr>
<tr>
<td>SPH 101 Fundamentals of Speech</td>
</tr>
<tr>
<td>SPH 102 Improving the Speaking Voice</td>
</tr>
<tr>
<td>SPH 111 Interpretative Reading</td>
</tr>
<tr>
<td>SPH 131 Introduction to Radio, Television and Mass Communications</td>
</tr>
<tr>
<td>SPH 161 Play Production</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Options:</th>
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</thead>
<tbody>
<tr>
<td>BIO 175+ Zoology</td>
</tr>
<tr>
<td>BIO 165+ Botany</td>
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<tr>
<td>BIO 175+ Zoology</td>
</tr>
</tbody>
</table>

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
III. Courses that satisfy the natural sciences requirements (cont.)

Note: + designates a science course with a laboratory

- BIO 240+ Human Anatomy and Physiology I
- BIO 250+ Human Anatomy and Physiology II
- BIO 252 Pathophysiology
- BIO 295+ Microbiology
- CHM 105+ Introductory Chemistry
- CHM 136+ General Chemistry I
- CHM 145+ General Chemistry II
- CHM 155+ Survey of Organic and Biochemistry
- CHM 250 Organic Chemistry I
- CHM 252 Organic Chemistry II
- CHM 255+ Organic Chemistry Lab
- DT 130 Fundamentals of Nutrition
- GEL 210+ Physical Geology Lecture
- PHY 115+ Fundamentals of Physics
- PHY 235+ General Physics I
- PHY 245+ General Physics II
- PHY 265+ Physics for Scientists & Engineers I
- PHY 275+ Physics for Scientists & Engineers II

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

Options:
- AAS 131 American Government and the African-American Struggle
- AAS 140 The Psychology of the African-American Experience
- ANT 152 Introduction to General Anthropology
- ANT 154 Introduction to Cultural Anthropology
- ANT 201 Urban Life and Culture
- ANT 210 Anthropology of Sex and Culture
- ECO 101 Principles of Economics I
- ECO 102 Principles of Economics II
- ECO 232 Consumer Economics
- ECO 272 Money and Banking
- HIS 151 World Civilization I: Prehistory to 1650
- HIS 152 World Civilization II: 1650 to Present
- HIS 220 History of Michigan
- HIS 290 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
- 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
- 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

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.
<table>
<thead>
<tr>
<th>Degree/Certificate Program</th>
<th>Degree/Certificate Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accounting AAS</td>
<td></td>
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<tr>
<td>2. Accounting CERT</td>
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<tr>
<td>3. Addiction Studies CERT</td>
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<tr>
<td>4. Alternative Fuels Technology CERT</td>
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<tr>
<td>5. American Sign Language CERT</td>
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<tr>
<td>6. Associate of Arts AA</td>
<td></td>
</tr>
<tr>
<td>7. Associate of General Studies AGS</td>
<td></td>
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<tr>
<td>8. Associate of Science AS</td>
<td></td>
</tr>
<tr>
<td>9. Automotive Service Technology (NATEF) Certified AAS</td>
<td></td>
</tr>
<tr>
<td>10. Automotive Service Technology (NATEF) Certified CERT</td>
<td></td>
</tr>
<tr>
<td>11. Aviation Mechanics: Airframe AAS</td>
<td></td>
</tr>
<tr>
<td>12. Aviation Mechanics: Airframe CERT</td>
<td></td>
</tr>
<tr>
<td>13. Aviation Mechanics: Powerplant AAS</td>
<td></td>
</tr>
<tr>
<td>15. Bio-Medical Equipment Repair Technology AAS</td>
<td></td>
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<tr>
<td>16. Business Administration AA</td>
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<tr>
<td>17. Business Administration AAS</td>
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<tr>
<td>18. Business Administration AAS</td>
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</tr>
<tr>
<td>19. CIS: Computer Support Specialist AAS</td>
<td></td>
</tr>
<tr>
<td>20. CIS: Network Administrator CERT</td>
<td></td>
</tr>
<tr>
<td>21. CIS: Video Game Design &amp; Animation CERT</td>
<td></td>
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<tr>
<td>22. CIS: Web Site Designer CERT</td>
<td></td>
</tr>
<tr>
<td>23. Criminal Justice: Corrections AAS</td>
<td></td>
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<tr>
<td>24. Criminal Justice: Law Enforcement AAS</td>
<td></td>
</tr>
<tr>
<td>25. Criminal Justice: Public/Private Security CERT</td>
<td></td>
</tr>
<tr>
<td>26. Dental Assisting CERT</td>
<td></td>
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<tr>
<td>27. Dental Hygiene AS</td>
<td></td>
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<tr>
<td>28. Digital Media Production AAS</td>
<td></td>
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<tr>
<td>29. Digital Media Production CERT</td>
<td></td>
</tr>
<tr>
<td>30. Early Childhood Education: Childcare Training: CDA CERT</td>
<td></td>
</tr>
<tr>
<td>31. Early Childhood Education: Childcare Training: CDA CERT</td>
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<tr>
<td>32. Electrical Electronics Engineering Technology (EEE) AAS</td>
<td></td>
</tr>
<tr>
<td>33. Electrical Electronics Engineering Technology (EEE) CERT</td>
<td></td>
</tr>
<tr>
<td>34. EEE: Computer Technology AAS</td>
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<tr>
<td>35. EEE: Industrial Electronics &amp; Control Technology AAS</td>
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<tr>
<td>36. EEE: Telecommunications Technology AAS</td>
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<tr>
<td>37. Emergency Medical Technology AAS</td>
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<tr>
<td>38. Emergency Medical Technology CERT</td>
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<tr>
<td>39. Emergency Room Multi-Skill Healthcare Technology AAS</td>
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<tr>
<td>40. Emergency Room Multi-Skill Healthcare Technology CERT</td>
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<tr>
<td>41. Entrepreneurship AAS</td>
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<tr>
<td>42. Facility Maintenance AAS</td>
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<tr>
<td>43. Facility Maintenance CERT</td>
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<tr>
<td>44. Fire Protection Technology: Fire Administration AAS</td>
<td></td>
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<tr>
<td>45. Fire Protection Technology: Fire Suppression AAS</td>
<td></td>
</tr>
<tr>
<td>46. Fire Protection Technology: Fire Suppression AAS</td>
<td></td>
</tr>
<tr>
<td>47. Foodservice Systems Management AAS</td>
<td></td>
</tr>
<tr>
<td>48. Foodservice Systems Management AAS</td>
<td></td>
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<tr>
<td>49. Forensic Photography CERT</td>
<td></td>
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<tr>
<td>50. Geothermal Systems Technology CERT</td>
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<tr>
<td>51. Gerontology CERT</td>
<td></td>
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<tr>
<td>52. Global Supply Chain Management CERT</td>
<td></td>
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<tr>
<td>53. Graphic Design Technology CERT</td>
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<tr>
<td>54. Heating Ventilation, Air Conditioning (HVAC) AAS</td>
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<td>59. Industrial Computer Graphics Technology CERT</td>
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<td>63. Light Rail Technology: Electromechanical AAS</td>
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<td>64. Light Rail Technology: Signaling and Communications AAS</td>
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<td>89. Sustainable Environmental Design (SED): Sustainable Building &amp; Sites CERT</td>
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<td>92. Water and Environmental Technology CERT</td>
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<td>94. Welding Technology: General - Level 1 CERT</td>
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<td>97. Welding Technology: Artistic Welding CERT</td>
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Accounting: Associate of Applied Science

Recommended Sequence of Courses

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<td>ACC 110</td>
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<td>BUS 150</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td>BUS 225</td>
<td>Computer Applications in Business</td>
<td>3</td>
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<td>English I</td>
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| SEMESTER 2 |
| ACC 111 | Principles of Accounting II | 4 |
| ACC 105 | Income Tax Accounting | 3 |
| ACC 112 | Computerized Accounting | 3 |
| BUS 240 | Business Communications | 3 |
| BUS 221 | Business Statistics | 3 |
| SEMESTER TOTAL | 17 |

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Continued on next page.
College Certificate: (ADD-CERT)

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. Helping individuals, families and communities with challenges of addiction in interpersonal, familial and community problems is the focus of the addiction studies program. This certificate seeks to prepare students to tackle the problems of addiction by teaching them the knowledge and necessary skills to understand and address these issues.

College Certificate Goals
• To prepare students for State of Michigan Certification as a Certified Addictions paraprofessional.
• To prepare students to work in organizations and agencies as paraprofessionals to deliver quality helping services to those in need of assistance and support while improving the social functioning and wellbeing of clients.
• To enhance career opportunities and advancement in the behavioral sciences industry.

College Certificate Outcomes
• Meet the educational requirements to become certified by taking the Michigan Certification Board for Addiction Professionals (MCBAP) examination by passing with at least 85% and/or the State of Michigan Social Services Technician examination.
• Students will be able to implement themes of the Social Work Mission while assisting clients.
• Students will be able to navigate through the National Association of Social Workers (NASW) Code of Ethics, while employing the most appropriate ethics.

Students will learn about various substance abuse, social programs, services, activities, agencies, organizations and institutions which will be useful in advocating and providing services to clients.

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.

Addiction Studies: College Certificate Recommended Sequence of Courses

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<thead>
<tr>
<th>CR. No.</th>
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<td>ENG 119</td>
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<td>HUS 105</td>
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<td>ADD 112</td>
<td>Addictions and Criminal Justice</td>
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Note: Certificate totals may not include prerequisite work.

ALTERNATIVE FUELS TECHNOLOGY

College Certificate: (CERT-AFT))

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, biodiesel, 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 alternative energy and fuel cell 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.

Continued on next page.
Alternative Fuels Technology continued

- 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

- Fulfill all WCCCD admission requirements.
- Declare intent to enter the Alternative Fuels Technology Program on the WCCCD Application for Admission form.
- Submit the Application for Admission or change intent at the admissions office.

Recommended Sequence of Courses

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Note: Certificate totals may not include prerequisite work.

American Sign Language: College Certificate

Recommended Sequence of Courses

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Note: Certificate total hours may not include prerequisites.

AMERICAN SIGN LANGUAGE

- College Certificate: (CERT-ASL)

About the Program

The American Sign Language College Certificate program at Wayne County Community College District provides language training and cultural enrichment for people who wish to learn American Sign Language and the uniqueness of deaf culture. This program will not prepare students to become interpreters but is designed to introduce students to the language and culture. This program is a complement to other degrees and is particularly useful for parents of deaf children and students pursuing careers such as allied health, nursing, early childhood education and teaching, where clients may be deaf.

College 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.
- Demonstrate the appropriate use of classifiers through directionality, word signs, noun placements and non-manual signs with a 75% proficiency level or higher.
- Exhibit an awareness, support and respect for ASL as the visual language of the deaf community.

Admission Requirements

- 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.

American Sign Language: College Certificate

Recommended Sequence of Courses

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Note: Certificate total hours may not include prerequisites.
ASSOCIATE OF ARTS - A.A.
Associate of Arts Degree: (AA)

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.
- 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

ASSOCIATE OF GENERAL STUDIES - A.G.S.
Associate of General Studies Degree: (AGS)

About the Program
The Associate of General Studies 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.
- Complete the “Requirements for All Degrees”
- Complete all academic group requirements
- The Transfer General Studies College Certificate degree consists of twenty-six (26) credit hours of credit, of which all must be earned at WCCCD.
- Must complete at least twenty-six (26) credit hours with an overall GPA of 2.5.

Note: Total hours may not include prerequisites.

Continued on next page.
### Associate of General Studies (A.G.S.) Degree:

**AMERICAN GOVERNMENT**
- PS 101 American Government .......................... 3

**ENGLISH**
- ENG 119 English I ...................................... 3
- Elective: any English course above ENG 119 .... 3

**HUMANITIES**
Select one three (3) credit course from the following:
- Dance
- English
- French
- Humanities
- Music
- Philosophy
- Spanish
- Speech

**MATHEMATICS**

**NATURAL SCIENCE**
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 TOTAL .................. 18**

**ELECTIVES ........................................... 42**

**A.G.S. PROGRAM TOTAL ...................... 60**

*Note: Program total hours may not include prerequisites.*

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### ASSOCIATE OF SCIENCE - A.S.

**Associate of Science Degree: (AS)**

**AMERICAN GOVERNMENT**
- PS 101 American Government .......................... 3

**ENGLISH**
- ENG 119 English I ...................................... 3
- ENG 120 English II ...................................... 3

**HUMANITIES**
- Consult a counselor for other course options
- Courses must be taken in more than one of the following academic disciplines:
  - Arabic
  - 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

**MATHEMATICS**

**NATURAL SCIENCE**
- Consult a counselor for other course options
- 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
- HIS 151, HIS 152, HIS 249, HIS 250
- MWS 102 Muslim World Civilization

**SOCIAL SCIENCE**
- 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.*

---

**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.
- Complete the “Requirements for All Degrees”
- Complete all academic group requirements
- Consult a transfer coordinator at the campus for course requirement advising.
**AUTOMOTIVE SERVICE TECHNOLOGY (NATEF)**

- College Certificate: (AST-CERT)
  Associate of Applied Science Degree: (AST-AAS)

**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 instructional curriculum, facilities and equipment of this program have been evaluated and self-employed. The programs prepare 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.

**Program Outcomes**

- Students will be able to demonstrate basic math and use of appropriate tools and equipment to perform maintenance and repair services.
- To teach students the basic principles of automotive technology safety as it applies to tool and equipment operations.
- 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.

**College Certificate Outcomes**

- Students will be able to demonstrate basic math and use of appropriate tools and equipment to perform basic maintenance and repair services.
- To 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 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 and Student Services Officers.

**Program Goals**

- To provide a basic foundation of the automotive service industry through applied knowledge of machinery, software and its applications.
- To teach students the basic principles of automotive technology safety as it applies to tool and equipment operations.
- 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.

**College Certificate Goals**

- To provide a basic foundation of the automotive service industry through applied knowledge of machinery, software and its applications.
- To teach students the basic principles of automotive technology safety as it applies to tool and equipment operations.
- 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.
- 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.

**Select 18 credits from the following:**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>AUT 114</td>
<td>Electrical/Electronic Systems I</td>
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<tr>
<td>AUT 115</td>
<td>Electrical/Electronic Systems II</td>
<td>3</td>
</tr>
<tr>
<td>AUT 116</td>
<td>Electrical/Electronic Systems III</td>
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<tr>
<td>AUT 117</td>
<td>Electrical/Electronic Systems IV</td>
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</tr>
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Note: Certificate totals may not include prerequisites.

Continued on next page.
### Automotive Service Technology continued

#### Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<td>AUT 114</td>
<td>Electrical/Electronics I</td>
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<tr>
<td>AUT 115</td>
<td>Electrical/Electronics II</td>
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<td>ENG 119</td>
<td>English I</td>
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<tr>
<td>MAT 113</td>
<td>Intermediate Algebra</td>
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<td>ELECTIVE: Humanities (any course)</td>
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<tr>
<td>AUT 116</td>
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<tr>
<td>AUT 117</td>
</tr>
<tr>
<td>EN 101</td>
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<td>ENG 120</td>
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<tr>
<td>ELECTIVE: Natural Science with Lab</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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<th>SEMESTER 3</th>
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<tr>
<td>BUS 240</td>
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<tr>
<td>SPH 101</td>
</tr>
<tr>
<td>ELECTIVE: Social Science (any course)</td>
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<tr>
<td><strong>Any 6 credits from the list below:</strong></td>
</tr>
<tr>
<td>AUT 118</td>
</tr>
<tr>
<td>AUT 119</td>
</tr>
<tr>
<td>AUT 200</td>
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<td>AUT 201</td>
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<td>AUT 209</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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</table>

### AVIATION MECHANICS: AIRFRAME

#### Airframe 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 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.

#### Airframe 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 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.

**Continued on next page.**
Aviation Mechanics: Airframe continued

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.

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

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

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
PROGRAM TOTAL: 97

Note: Program totals may not include prerequisites.

AVIATION MECHANICS: POWERPLANT

College Certificate: (AMP-CERT) Associate of Applied Science Degree: (AMP-AAS)

About the Program
The Aviation Mechanics Associate of Applied Science and College Certificate degree program offers two options: Airframe and Powerplant. Courses are conducted in partnership with the Michigan Institute of Aviation Technology (MIAT). Successful completers will be granted credit toward the Associate of Applied Science degree.

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 college 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 Associate of Applied Science Degree. Students who wish to prepare only for the FAA license should select the Certificate.

This program offers:
- Associate of Applied Science: Mechanical Powerplant 97 credit hours
- College Certificate: Powerplant Aviation Technician 48 credit hours

Powerplant Program Goals
- To teach and prepare students for individual 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 powerplant repair.

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.

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 powerplant.

Continued on next page.
Aviation Mechanics: Powerplant continued

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.

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
AVIATION POWERPLANT CERTIFICATE TOTAL .......................... 48

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

GENERAL EDUCATION COURSES
ENG 119 English I .............................................. 3
ENG 120 English II .............................................. 3
PS 101 American Government ............................. 3
ELECTIVE Natural Science with Lab ......................... 4
GENERAL EDUCATION TOTAL ......................... 13

OCCUPATIONAL SUPPORT COURSES
MAT 155 College Algebra ........................................ 4
OCCUPATIONAL SUPPORT TOTAL .......................... 4

POWERPLANT OCCUPATIONAL SPECIFIC COURSES
(Courses from the following required to achieve a Federal Aviation Administration (FAA):
Air Science Section
ATP 101 Introduction to Aviation I ................................. 8
ATP 102 Introduction to Aviation II ................................. 8
ATP 103 Basic Electricity ............................................ 8
ATP 104 Materials, Fuel, Fire and Corrosion .......................... 8
AIR SCIENCE SECTION TOTAL .......................... 32

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

POWERPLANT AAS PROGRAM TOTAL .......................... 97

Note: Program totals make not include prerequisites.

BIO-MEDICAL EQUIPMENT REPAIR TECHNOLOGY
Associate of Applied Science Degree: (BET-AAS)

About the Program
The Associate of Applied Science program in Bio-Medical Equipment Repair is designed to provide students with in-depth knowledge of high technology equipment used in hospitals, clinics and in the offices of medical doctors. Health care facilities today depend heavily on technology to diagnose, monitor and treat diseases. The equipment and technology utilized are intended to improve the quality of healthcare. The medical community must rely on the skills of Bio-Medical Equipment Repair Technicians to maintain their equipment. The students in the program will benefit by gaining skills to make themselves competitive in the employment market as trends continue to require more technological training in the healthcare field. Their tasks include functional and safety inspections, preventive maintenance, calibration, troubleshooting, equipment repair, and the training of hospital personnel in the safe and proper use of the equipment.

Program Goals
• The Bio-Medical Equipment Repair Technology program will provide the skills and training necessary for students to understand and preserve medical electronic equipment.
• The program will prepare students to initiate functional and safety inspections, preventive maintenance, calibration, troubleshooting, equipment repair, and the training of hospital personnel in the safe and proper use of Bio-Medical equipment.
• To prepare students to successfully pass the ICC Certification exam for the Bio-Medical Equipment Technician (BMET) with a proficiency of 70% or higher.

Program Outcomes
• Demonstrate knowledge of techniques, skills, and modern tools used within Bio-Medical Equipment industry.
• Apply creativity in the design of systems, components, and processes appropriate to program objectives
• Function effectively as part of a team and communicate effectively with clients
• Identify, analyze, troubleshoot and repair hardware and software problems of bio-medical equipment.
• Recognize the need for lifelong learning and upgraded certifications in the field
• Understand professional, ethical, and social responsibilities of working in the health care field
• Repair, maintain, install, upgrade, layout and modify electrical/electronics of bio-medical equipment

Admission Requirements
Students are required to do the following:
• Fulfill all WCCCD admission requirements.
• Students must declare intent to enter the Bio-Medical Equipment Repair Technology program and complete WCCCD Program Application and submit to the Campus Chief Academic Officer
• Fulfill course placement requirements based on COMPASS test.
• Obtain an Educational Development Plan (Plan of Work), outlining the student’s plan for program completion.
• Complete the following courses at WCCCD or obtain equivalent transfer credit for the following courses: MAT 113, BIO 155, CIS 110, and BUS 225. Courses must be completed with a “C” or better for program admission

Bio-Medical Equipment Repair Technology: Associate of Applied Science
Recommended Sequence of Classes

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<tbody>
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<td>SEMESTER 1</td>
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<tr>
<td>CT 203</td>
<td>Digital Logic I</td>
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<tr>
<td>EE 101</td>
<td>Circuit Analysis I</td>
<td>.......... 4</td>
</tr>
<tr>
<td>EE 107</td>
<td>Mathematics for Electrical Engineering I</td>
<td>.......... 4</td>
</tr>
<tr>
<td>SEMESTER TOTAL</td>
<td></td>
<td>.......... 12</td>
</tr>
</tbody>
</table>

Continued on next page.
### BUSINESS ADMINISTRATION

**Associate of Arts Degree:** (BAD-AA)  
**Associate of Applied Science Degree:** (BAD-AAS)

**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.

**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.

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

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<tr>
<th>CR. No.</th>
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<tr>
<td><strong>SEMESTER 1</strong></td>
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<tr>
<td>ACC 110</td>
<td>Principles of Accounting I</td>
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<tr>
<td>BUS 150</td>
<td>Introduction to Business</td>
<td>3</td>
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<tr>
<td>BUS 225</td>
<td>Computer Applications In Business</td>
<td>3</td>
</tr>
<tr>
<td>ENG 119</td>
<td>English I</td>
<td>3</td>
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<tr>
<td>SPH 101</td>
<td>Fundamentals of Speech</td>
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<tr>
<td>SPH 105</td>
<td>Improving Your Speaking Voice</td>
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<td>Principles of Accounting II</td>
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<td>ENG 120</td>
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<td>MAT 155</td>
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<td>PS 101</td>
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<td>ECO 101</td>
<td>Principles of Economics I</td>
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<td>BUS 228</td>
<td>Internet Web Page Design</td>
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<tr>
<td>MKT 200</td>
<td>Principles of Marketing</td>
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<td>BUS 240</td>
<td>Business Communications</td>
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<td>ECO 102</td>
<td>Principles of Economics II</td>
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<tr>
<td>Elective: Natural Science w/Laboratory</td>
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<tr>
<td>Elective: Humanities</td>
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<td><strong>PROGRAM TOTAL</strong></td>
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</table>

*Note: Program total hours may not include prerequisites.*
COMPUTER INFORMATION SYSTEMS

Associate of Applied Science Degree: (AAS-CIS)

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. The degree includes core courses of information systems fundamentals, and allows for the selection of courses in specialized areas 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.

Associate of Arts Degree: 60 credit hours
College Certificate(s):
1. Computer Support Specialist: 29 credit hours
2. Network Administrator: 34 credit hours
3. Video Game Design & Animation: 34 credit hours
4. Website Designer: 34 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
• 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
To be admitted into the CIS program students must:
• Fulfill all WCCCD admission requirements.
• Declare program intent on the WCCCD application.
• Fulfill course placement requirements based on COMPASS test.
• Obtain an Educational Development Plan from an academic advisor.

Computer Information Systems:
Associate of Applied Science
Recommended Sequence of Courses

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

**SEMESTER 1**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CIS 110</td>
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<tr>
<td>ENG 119</td>
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<td>CIS 112</td>
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<td>Elective</td>
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<td>CIS 241</td>
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<td>MAT 113</td>
<td>Intermediate Algebra</td>
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<td>Elective</td>
<td>CIS</td>
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<td>PS 101</td>
<td>American Government</td>
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<td>SPH 101</td>
<td>Fundamentals of Speech</td>
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<td>CIS 210</td>
<td>Introduction to UNIX Operating Systems</td>
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<td>Social Science</td>
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**SEMESTER 5**

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Note: Program total hours may not include prerequisites.

**COMPUTER INFORMATION SYSTEMS: COMPUTER SUPPORT SPECIALIST**

About the Program
The Computer Information Systems Computer Support Specialist College Certificate 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.

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:
College Certificate: 29 credit hours

College Certificate Goals
• Provide a basic foundation and practical experience in computer systems concepts with an emphasis in microcomputer applications.

Continued on next page.
COMPUTER INFORMATION SYSTEMS: NETWORK ADMINISTRATOR

• College Certificate: (CIS-NTWK-ADM)

About the Program
The Computer Information Systems Network Administrator College Certificate 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 Network Administrator concentration prepares students as network systems administrators who can design, install, and support an organization’s 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.

This program offers:
College Certificate: 30 credit hours

College Certificate 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.

College Certificate Outcomes
• Students will be able to demonstrate proficiency and applied knowledge in various Windows server services implemented 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.

Continued on next page.
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 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.
• Obtain an Educational Development Plan of Work, outlining the student’s plan for program completion from an academic advisor.

Computer Network Administrator:

Recommended Sequence of Courses

CR. No. COURSE TITLE CREDITS

SEMESTER 1
CIS 110 Introduction to Computer Information Systems .............. 4
CT 211 Computer Networking I .............. 4
SEMESTER TOTAL ....................... 8

SEMESTER 2
CIS 210 Introduction to UNIX Operating Systems .................. 3
CIS 240 Networking Essentials .................. 3
CT 210A Computer Repair II - CompTIA A+ .................. 6
SEMESTER TOTAL ....................... 12

SEMESTER 3
CIS 237 Cisco CCNA .............. 7
CIS 243 Network Security Fundamentals .................. 3
SEMESTER TOTAL ....................... 10
CIS: NETWORK ADMINISTRATOR CERTIFICATE TOTAL .............. 30

Note: Certificate total hours may not include prerequisites.

Computer Information Systems: Video Game Design & Animation

• College Certificate: (CERT-VGDA)

About the Program

The Computer Information Systems Video Game Design and Animation College Certificate is designed to provide a solid foundation in the fundamental skills that are generally required to 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:

College Certificate: 34 credit hours

College Certificate Goals

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

College 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 individuals supporting a wide 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.

Video Game Design and Animation College Certificate

Recommended Sequence of Courses

CR. No. COURSE TITLE CREDITS

SEMESTER 1
CIS 110 Introduction to Computer Information Systems .............. 4
VDG 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
VDG 269 Introduction to 3D Graphics & Animation .................. 4
SEMESTER TOTAL ....................... 7

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

Note: Certificate total hours may not include prerequisites.
COMPUTER INFORMATION SYSTEMS: WEBSITE DESIGNER

• College Certificate: (CERT-CMW)

About the Program
The Computer Information Systems 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:
College Certificate: 30 credit hours

College Certificate Goals
• Students will be able to demonstrate competencies in the development and deployment of website design.

College 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 computer competencies which include the ability to type at a minimum 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.

Recommended Sequence of Courses

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<thead>
<tr>
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<tr>
<td>SEMESTER 1</td>
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<tr>
<td>CIS 110</td>
<td>Introduction to Computer Information Systems</td>
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<td>CIS 112</td>
<td>Structured Design</td>
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<td>CIS 241</td>
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<td>BUS 228</td>
<td>Internet Web Page Design</td>
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<td>CIS 266</td>
<td>Introduction to Graphic Design</td>
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<td>CIS 213</td>
<td>Web Design Methodology &amp; Technology</td>
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<td>CIS 258</td>
<td>Javascript/PERL</td>
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<td>CIS 250</td>
<td>E-commerce Strategies and Practices</td>
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<td>CIS 267</td>
<td>Understanding and Developing Multimedia</td>
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Note: Certificate total hours may not include prerequisites.

CRIMINAL JUSTICE: LAW ENFORCEMENT ADMINISTRATION AND CORRECTIONS

• College Certificate (CJPPS-CERT) Associate of Applied Science Degree: Law Enforcement Administration (CJLE-AAS)

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:
1. Law Enforcement Administration Associate of Applied Science: 61 credit hours
2. Corrections Associate of Applied Science: 61 credit hours
3. Criminal Justice: Public/Private Security College Certificate: 31 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.

College Certificate Goals
• To prepare students interested in entering the field of public/private security for high quality corporate security jobs in law in enforcement, retail, education, management, design and business organizations.
• To prepare students for jobs in the Transportation Security Administration (TSA) of the Department of Homeland Security

College Certificate Outcomes
• Explain basic security functions, compare and contrast crime causation theories and explain the relationship between security and policing.
• Distinguish between the different categories of crime, elagate verbal and nonverbal communication cues, develop an investigative strategy and successfully prepare and present findings both or internal and external viewing.
• Identify threats to information security, develop policies and procedures to help deter and respond to cybercrime, evaluate the potential of threats, conduct information security assessments and formulate incentives to support overall compliant with information security standards and guidelines.
Criminal Justice: Corrections continued

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.

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

CR. No. COURSE TITLE CREDITS

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<td>AAS 131</td>
<td>American Government and the African American Struggle</td>
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<td>Group Expression for Self-Growth I</td>
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<td>Introduction to Juvenile Justice</td>
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<td>COR 110</td>
<td>Introduction to Deviant Behavior</td>
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<td>COR 215</td>
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Note: Program total hours may not include prerequisites.

DENTAL ASSISTING

• College Certificate: (DEA-CERT)

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 to competently perform a variety of dental assisting tasks in a variety of community and health care settings.

Continued on next page.
Dental Assisting continued

College Certificate Outcomes
- Students will be able to detail, plan and demonstrate competency in performing comprehensive and routine dental laboratory procedures, assist in managing medical emergencies and perform expanded functions legal in the State of Michigan.
- Demonstrate competency in performing clinical and support treatments to include collecting diagnostic and treatment data.
- Demonstrate with competency managing proper infection control and hazard management protocol.
- Demonstrate with competency taking diagnostic radiographs proficiently related to exposure, processing, mounting and evaluation.
- Understand and demonstrate proficiency in carrying out routine dental office procedures to include computer data entry, scheduling, and records management.
- Understand regulations governing the legal and ethical boundaries of the profession as they apply to American Dental Assistants Association (ADAA) code of ethics and Health Insurance Portability and Accountability Act (HIPAA) guidelines while modeling professional behaviors, ethics and appearance.
- Demonstrate competency in providing patient oral health instructions.

Admission Requirements
The program begins each Fall semester and part-time students are accepted on a space availability basis. Student 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 must complete the following:
- 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 comprehension via the COMPASS test with a score of 78 or Freshman English level 119.
- Demonstrate reading comprehension at Freshman English levels via the COMPASS test. Based on the results of the test pre-requisite courses may be required.
- 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.
- Show proof in enrolling in an applicable CPR (for the healthcare provider).
- Obtain a Criminal Background Check (through the program).
- Meet with the Dental Assisting Program Director.
- The admitted student must purchase the required uniform and student kit by the first week of classes.
- Program approval is required for credits for “Prior Experience and Required Knowledge”.

After acceptance in the program and before classes begin, you will need to provide the following:
- Documentation of current medical examination.
- Complete CPR training for the Health Care Provider (A CPR course is offered by the College).
- Documentation of dental examination and completed treatment.

Before participating in any clinical course:
- The admitted student must purchase the required uniform and student kit by the first week of classes.

Dental Assisting College Certificate Recommended Sequence of Courses

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<th>COURSE TITLE</th>
<th>CREDITS</th>
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<td>DA 104</td>
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<td>DA 106</td>
<td>Applied Sciences</td>
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<td>DA 107</td>
<td>Introduction to Expanded Functions</td>
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<tr>
<td>DA 110</td>
<td>Clinical Dental Assisting</td>
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<tr>
<td>DA 115</td>
<td>Preventive Dentistry</td>
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<tr>
<td>DEN 200</td>
<td>Dental Radiology Theory</td>
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<tr>
<td>DEN 201</td>
<td>Dental Radiology Lab</td>
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<tr>
<td>SEMESTER TOTAL</td>
<td></td>
<td>16</td>
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</table>

| SEMESTER 2 |                                |         |
| 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      |

| SEMESTER 3 |                                |         |
| DA 125 | Clinical Practice II           | 5       |
| SEMESTER TOTAL |                           | 5       |
| CERTIFICATE TOTAL |                        | 37**    |

Note: Certificate 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 Degree: (DEH-AS)

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 the following: oral prophylaxis, including scaling, root planning and polishing, recording medical/dental history, diagnostic data collection, dental charting, oral cancer screening, oral examinations, treatment planning, root planning, expose, develop and interpret dental radiographs, apply fluoride, 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.

Continued on next page.
Dental Hygiene continued

This program offers:
Associate of Science Degree: 62 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 provide care to the patient in the prevention of dental disease in a clinical setting.
• Students will be able to describe the benefits of providing care in the dental office and at home.
• Students will be able to demonstrate competency in the performance of clinical and preventive care.
• Students will be able to provide care in a rapidly changing environment.
• Students will be able to synthesize information in a critical, scientific manner.

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

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

SEMESTER 1 (FALL)

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<td>Fundamentals of Dental Hygiene</td>
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<td>DHY 110</td>
<td>Oral Anatomy &amp; Physiology</td>
<td>3</td>
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<tr>
<td>DHY 120</td>
<td>Clinical Techniques</td>
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<tr>
<td>DEN 112</td>
<td>Medical &amp; Dental Emergencies</td>
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<tr>
<td>DT 130</td>
<td>Fundamentals of Nutrition</td>
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SEMESTER TOTAL = 14

SEMESTER 2 (SPRING)

<table>
<thead>
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<td>Oral Histology and Embryology</td>
<td>3</td>
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<tr>
<td>DHY 129</td>
<td>Clinical Dental Hygiene I: Lecture</td>
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<tr>
<td>DHY 130</td>
<td>Clinical Dental Hygiene I: Lab</td>
<td>3</td>
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<tr>
<td>DHY 221</td>
<td>Dental Biomaterials</td>
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<td>DEN 200</td>
<td>Dental Radiology Theory</td>
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<td>DEN 201</td>
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SEMESTER TOTAL = 14

SEMESTER 3 (SUMMER)

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<td>DHY 132</td>
<td>Clinical Dental Hygiene II: Lab</td>
<td>3</td>
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<td>DHY 211</td>
<td>Pharmacology</td>
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<td>DHY 213</td>
<td>Periodontology</td>
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<td>DHY 227</td>
<td>Radiology II</td>
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SEMESTER TOTAL = 11

SEMESTER 4 (FALL)

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<td>Clinical Dental Hygiene III:</td>
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<td>Clinical Dental Hygiene III: Lab</td>
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<td>DHY 214</td>
<td>Local Anesthesia and Pain Management</td>
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<td>DHY 223</td>
<td>Dental Health Education</td>
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SEMESTER TOTAL = 16

SEMESTER 5 (SPRING)

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<td>Community Dentistry</td>
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<td>DHY 219</td>
<td>Clinical Dental Hygiene IV:</td>
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<td>DHY 220</td>
<td>Clinical Dental Hygiene IV: Lab</td>
<td>5</td>
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<tr>
<td>DHY 225</td>
<td>Management of Special Patients</td>
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SEMESTER TOTAL = 14

SEMESTER 6 (SUMMER)

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<td>Advanced Periodontology</td>
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<td>DHY 229</td>
<td>Clinical Dental Hygiene V:</td>
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<td>DHY 230</td>
<td>Clinical Dental Hygiene V: Lab</td>
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<td>DHY 233</td>
<td>Dental Hygiene Seminar</td>
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<tr>
<td>ALH 230</td>
<td>Medical Ethics</td>
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</table>

SEMESTER TOTAL = 13

PROGRAM TOTAL = 82

Note: Program totals may not include prerequisites.
DIGITAL MEDIA PRODUCTION

- College Certificate: (CERT-FTC)
- Associate of Applied Science Degree: (AAS-FTC)

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.

College Certificate Goals
- To provide student’s a basic foundation in digital media production.
- Provide a foundation for students to develop competency in developing media projects utilizing digital media technology.

College 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 Advisor.

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 OBS 101.

Digital Media Production: College Certificate Recommended Sequence of Courses:

<table>
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<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tr>
<td>SEMESTER 1</td>
<td>BUS 228 Internet Web Page Design for Business Applications</td>
<td>3</td>
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<td></td>
<td>DMP 101 Story Elements for a Digital Environment</td>
<td>3</td>
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<tr>
<td></td>
<td>SPH 105 Improving the Speaking Voice</td>
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<tr>
<td></td>
<td>PRM 101 Project Management</td>
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<tr>
<td></td>
<td>SEMESTER TOTAL</td>
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<tr>
<td>SEMESTER 2</td>
<td>CIS 110 Introduction to Computer Information Systems</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>DMP 102 Digital Video Production I</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENG 120 English II</td>
<td>3</td>
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<td></td>
<td>PRM 101 Project Management</td>
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<td>SEMESTER TOTAL</td>
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<td>SEMESTER 3</td>
<td>BUS 228 Internet Web Page Design for Business Applications</td>
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<td>CIS 266 Introduction to Graphic Design</td>
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<td>DMP 114 Writing for the Media</td>
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<tr>
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<td>DMP 111 Television Programming</td>
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<td>DMP 102 Digital Video Production I</td>
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<td>SEMESTER TOTAL</td>
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<td>SEMESTER 4</td>
<td>CIS 267 Understanding and Developing Multimedia</td>
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<td>DMP 103 Digital Video Production II</td>
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<td>DMP 107 Digital to Audio Production II</td>
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Note: Certificate total hours may not include prerequisites.

Digital Media Production: Associate of Applied Science (A.A.S.) Recommended Sequence of Courses:

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<tr>
<td>SEMESTER 1</td>
<td>ART 101 Drawing I</td>
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<td>DMP 101 Story Elements for a Digital Environment</td>
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<td>ENG 119 English I</td>
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<td>HUM 101 Introduction to Visual Arts</td>
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<td>SEMESTER TOTAL</td>
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</tr>
<tr>
<td>SEMESTER 2</td>
<td>CIS 110 Introduction to Computer Information Systems</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>DMP 102 Digital Video Production I</td>
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</tr>
<tr>
<td></td>
<td>ENG 120 English II</td>
<td>3</td>
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<td></td>
<td>PRM 101 Project Management</td>
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<td>SEMESTER TOTAL</td>
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<tr>
<td>SEMESTER 3</td>
<td>BUS 228 Internet Web Page Design for Business Applications</td>
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<tr>
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<td>CIS 266 Introduction to Graphic Design</td>
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<td>DMP 114 Writing for the Media</td>
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<td>DMP 102 Digital Video Production I</td>
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</tr>
<tr>
<td>SEMESTER 4</td>
<td>CIS 267 Understanding and Developing Multimedia</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DMP 103 Digital Video Production II</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DMP 107 Digital to Audio Production II</td>
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<td></td>
<td>HUM 101 Introduction to Film</td>
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<td>SEMESTER TOTAL</td>
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<td>SEMESTER 5</td>
<td>DMP 111 Television Programming</td>
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<td>DMP 105 Media Programming</td>
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<td>DMP 107 Digital Audio Production II</td>
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<tr>
<td>PROGRAM TOTAL</td>
<td>61</td>
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</table>

Note: Program total hours may not include prerequisites.
This program offers:
Credential Certificate: 28+ credit hours
Early Childhood Education: Child Development Associate of Applied Science: 71 credit hours

Early Childhood Education (CDA) 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 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 Education (CDA) 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.
• 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.

Early Childhood Education (CDA)
College Certificate Goals
• To prepare students individual credentialing towards the State of Michigan’s Early Childhood Education Permit.

Early Childhood Education (CDA)
College 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 program a student must:
• Fulfill all WCCCD admission requirements.
• Declare program intent on the WCCCD 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.

Early Childhood Education (CDA): College Certificate
Recommended Sequence of Courses

<table>
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<td>CCT 104</td>
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<td>CTT 210</td>
<td>Special Populations</td>
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<td>Child Assessment Techniques</td>
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<tr>
<td>PSY 220</td>
<td>Child Growth and Development</td>
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Note: Certificate total hours may not include prerequisites.
+: Waived upon program entrance; Completed in Lifeskills and/or verified on transcript.

Early Childhood Education (CDA)
Associate of Applied Science
Recommended Sequence of Courses

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<td>CTT 101</td>
<td>Introduction to Early Childhood Care</td>
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<td>EMT 101</td>
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<td>ENG 119</td>
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<tr>
<td>HUS 133</td>
<td>Professionalism in Human Services</td>
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<tr>
<td>PSY 101</td>
<td>Introduction Psychology</td>
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PREREQUISITES TOTAL: 17

EARLY CHILDHOOD EDUCATION: CHILD DEVELOPMENT ASSOCIATE (CDA)

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 teachers and caregivers in an early childhood settings. 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.

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

EARLY CHILDHOOD EDUCATION

CAREER COURSES
ENG 285 Children’s Literature ............... 3
CCT 106 Methods and Techniques in Child Care: Preschool Child Development ..................... 4
CCT 257 Infant and Toddler Literature ........ 3
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

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: (CERT-EEET)
  Associate of Applied Science Degree: (EEET-AAS)

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. (EEET-AAS) Degree: 47 credit hours
2. Electrical Electronics Engineering Technology College Certificate (CERT-EEET): 32 credit hours

Concentrations in Electrical Electronics Engineering Technology:
• Computer Technology A.A.S. (AAS-EECT) Degree: 65 credit hours
• Industrial Electronics & Control Technology A.A.S. (EEET-AAS) Degree: 65 credit hours
• Telecommunications Technology A.A.S. (EECT-AAS) Degree: 64 credit hours

Program Goals
• To assure that students are provided educational experiences in the areas of electrical and electronics installation and maintenance.
• Prepare students to successfully pass the International Society of Certified Technician (ISCET) certification exams.
• To provide transferability to four-year universities offering BS in electrical electronics, engineering technology and vocational teaching certificates.

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.
• Students with prior electrical electronics, licenses, training and experience may be qualified to waive certain classes.
• Electrical Electronics Engineering Programs are approved by the FAA (Federal Aviation Administration).

College 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.

College 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 Circuit Analysis I – 4 credit hours.
  • Students with prior electrical electronics, licenses, training and experience may be qualified to waive certain classes.

Electrical Electronics Engineering Technology: College Certificate
Recommended Sequence of Courses

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

Continued on next page.
**Electrical Electronics Engineering Technology: Computer Technology**

Associate of Applied Science Degree (AAS-EECT)

**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.

**Program Outcomes**
- Students will be able to successfully pass the CompTIA’s A+ certification, Microsoft Certified System Engineer, and Microsoft Certified Systems Administrators exams.
- 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.
- 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 Circuit Analysis I – 4 credit hours.
- Students with prior electrical electronics, licenses, training and experience may be qualified to waive certain classes.

**Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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</thead>
<tbody>
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<tr>
<td>CT 203</td>
<td>Digital Logic I</td>
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<tr>
<td>EE 101</td>
<td>Circuit Analysis I</td>
<td>4</td>
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<tr>
<td>EE 105</td>
<td>Electronics Fabrication &amp; Design</td>
<td>2</td>
</tr>
<tr>
<td>EE 107</td>
<td>Mathematics for Electrical/Natural Science</td>
<td>4</td>
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<tr>
<td>ENG 119</td>
<td>English I</td>
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<tr>
<td><strong>SEMESTER 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CT 205</td>
<td>Introduction to Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>EE 102</td>
<td>Circuit Analysis II</td>
<td>4</td>
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<td>EE 111</td>
<td>Solid State Fundamentals</td>
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<td>EE 115</td>
<td>Mathematics for Electrical/Electronics I</td>
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<td>EE 205</td>
<td>Linear Integrated Circuits</td>
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<td>MCT 203</td>
<td>Mechatronics II</td>
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<td>TCM 200</td>
<td>Introduction to Telecommunications</td>
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<tr>
<td>TCM 203</td>
<td>Communications I</td>
<td>3</td>
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<tr>
<td>MCT 208</td>
<td>Programmable Logics Controllers</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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<tr>
<td>ENG 120</td>
<td>English</td>
<td>3</td>
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<tr>
<td>PHY 235</td>
<td>General Physics I</td>
<td>4</td>
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<tr>
<td>PS 101</td>
<td>American Government</td>
<td>3</td>
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<td><strong>EET TECHNOLOGY PROGRAM TOTAL</strong></td>
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</tr>
</tbody>
</table>

Note: Program total hours may not include prerequisites.
**ELECTRICAL ELECTRONICS ENGINEERING TECHNOLOGY: INDUSTRIAL ELECTRONICS & CONTROL TECHNOLOGY**

Associate of Applied Science Degree: (EEIT-AAS)

**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: 65 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, programmable logic controllers, 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, and control
- 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 programmable logic controller

**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 WCCC Application for Admission Office or change their intent at the Admission Office.
- Course placement requirements based on COMPASS test results.
- Students must complete WCCC Program Application during the semester they are enrolled in EE 101 Circuit Analysis I, 4 credit hours and submit to the Campus Academic Officer.

**Industrial Electronics and Control Technology: Associate of Applied Science (A.A.S.)**

**Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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</thead>
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<td>SEMESTER 1</td>
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<td>CT 203</td>
<td>Digital Logic I</td>
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<tr>
<td>EE 101</td>
<td>Circuit Analysis I</td>
<td>4</td>
</tr>
<tr>
<td>EE 105</td>
<td>Electronics Fabrication &amp; Design</td>
<td>4</td>
</tr>
<tr>
<td>EE 107</td>
<td>Mathematics for Electrical/Electronics I</td>
<td>4</td>
</tr>
<tr>
<td>ENG 119</td>
<td>English I</td>
<td>3</td>
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<tr>
<td>SEMESTER TOTAL</td>
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<tr>
<td>SEMESTER 2</td>
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<tr>
<td>CT 205</td>
<td>Introduction to Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>EE 102</td>
<td>Circuit Analysis II</td>
<td>4</td>
</tr>
<tr>
<td>EE 111</td>
<td>Solid State Fundamentals</td>
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<tr>
<td>EE 115</td>
<td>Mathematics for Electrical/Electronics II</td>
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<tr>
<td>SEMESTER TOTAL</td>
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<td>SEMESTER 3</td>
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<tr>
<td>EE 205</td>
<td>Linear Integrated Circuits</td>
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<td>Elective: Natural Science Elective</td>
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<td>ENG 134</td>
<td>Technical Communications</td>
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<tr>
<td>MCT 202</td>
<td>Introduction to Robotics</td>
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<td>MCT 203</td>
<td>Electrical Machinery and Controls</td>
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<td>PS 101</td>
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<td>SEMESTER TOTAL</td>
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<tr>
<td>MCT 207</td>
<td>Hydraulics &amp; Pneumatics</td>
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<td>MCT 208</td>
<td>Programmable Logics Controllers</td>
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<td>PHY 235</td>
<td>General Physics I</td>
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<td>SEMESTER TOTAL</td>
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<td>EEE: INDUSTRIAL ELECTRONICS AND CONTROL TECHNOLOGY PROGRAM TOTAL</td>
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</table>

Note: Program total hours may not include prerequisites.

**ELECTRICAL ELECTRONICS ENGINEERING TECHNOLOGY: TELECOMMUNICATIONS TECHNOLOGY**

Associate of Applied Science Degree: (EETC-AAS)

**About the Program**
The Telecommunications Technology 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 major is designed for students interested in all electronic media, including broadcasting, cable, satellite, internet and telephone 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 telecommunications systems.

Continued on next page.
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 Circuit Analysis I – 4 credit hours.

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
• College Certificate: (CERT-EMT) Associate of Applied Science Degree: (EMT-AAS)

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, or Paramedic will also receive a certificate of completion and 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:
Certificate of Completion: First Medical Responder = 4 credit hours
Certificate of Completion: Basic Emergency Medical Technician (Basic EMT) = 2 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).

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

Program Curricula

EEE: Telecommunications Technology
Concentration Associate of Applied Science (A.A.S.)
Recommended Sequence of Courses

<table>
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<tr>
<th>CR. No.</th>
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<td>EE 101</td>
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<td>EE 105</td>
<td>Electronics Fabrication &amp; Design</td>
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<td>EE 107</td>
<td>Math for Electrical/Electronics I</td>
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<td>ENG 119</td>
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<tr>
<td>SEMESTER TOTAL</td>
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<tr>
<td>SEMESTER 2</td>
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<td>CT 205</td>
<td>Introduction to Microprocessors</td>
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<td>Math for Electrical/Electronics II</td>
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<td>Linear Integrated Circuits</td>
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<td>TCM 200</td>
<td>Introduction to Telecommunications</td>
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<td>TCM 202</td>
<td>Fiber Optics Communications</td>
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<td>TCM 206</td>
<td>Basic Switching and Signaling</td>
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<td>PHY 235</td>
<td>General Physics I</td>
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<td>EEE: TELECOMMUNICATIONS PROGRAM TOTAL</td>
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</table>

Note: Program total hours may not include prerequisites.

Emergency Medical Technology

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, or Paramedic will also receive a certificate of completion and 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:
Certificate of Completion: First Medical Responder = 4 credit hours
Certificate of Completion: Basic Emergency Medical Technician (Basic EMT) = 2 credit hours
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Paramedic: This certificate program is designed for individuals who desire employment on paramedic ambulances, fire department Advanced Life Support (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 and Spring 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.

<table>
<thead>
<tr>
<th>EMT: Certificate of Completion – Medical First Responder</th>
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<td>EMT 105 Medical First Responder</td>
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<table>
<thead>
<tr>
<th>EMT: Certificate of Completion – Basic Emergency Medical Technician (Basic EMT)</th>
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<tbody>
<tr>
<td>EMT 114 Basic EMT I</td>
<td>4</td>
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<tr>
<td>EMT 124 Basic EMT II</td>
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<tr>
<td>EMT 126 Basic EMT Clinical Experience</td>
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<table>
<thead>
<tr>
<th>EMT: Certificate of Completion – Basic Emergency Medical Technician (Basic EMT)</th>
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<tbody>
<tr>
<td>EMT 218 Prepared Medicine</td>
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<tr>
<td>EMT 221 Paramedic I</td>
<td>10</td>
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<tr>
<td>EMT 231 Paramedic II</td>
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<td>EMT 236 Paramedic Clinical Experience</td>
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<tr>
<td>EMT 241 Paramedic III</td>
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<td>EMT 242 Paramedic IV</td>
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<td>EMT 246 Paramedic Clinical Experience II</td>
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<tr>
<td>EMT 256 Paramedic Field Internship</td>
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| EMT College Certificate TOTAL | .30 |

| EMT College Certificate | 30 |

<table>
<thead>
<tr>
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<tr>
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<td>EMT 221 Paramedic I</td>
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<td>EMT 231 Paramedic II</td>
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<td>EMT 236 Paramedic Clinical Experience</td>
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<td>EMT 241 Paramedic III</td>
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<td>EMT 244 Paramedic VI</td>
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<td>EMT 246 Paramedic Clinical Experience II</td>
<td>2</td>
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<tr>
<td>EMT 256 Paramedic Field Internship</td>
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| EMT College Certificate TOTAL | .9 |

| EMT College Certificate | .9 |

<table>
<thead>
<tr>
<th>EMT: Certificate of Completion – Paramedic Emergency</th>
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<tr>
<td>EMT 218 Emergency Medicine</td>
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<td>EMT 221 Paramedic I</td>
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<tr>
<td>EMT 236 Paramedic Clinical Experience</td>
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<tr>
<td>EMT 242 Paramedic IV</td>
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<tr>
<td>EMT 244 Paramedic VI</td>
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<tr>
<td>EMT 246 Paramedic Clinical Experience II</td>
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<td>EMT 256 Paramedic Field Internship</td>
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</table>

| EMT College Certificate TOTAL | .72 |

| EMT College Certificate | .72 |

Emergency Medical Technology: College Certificate

Recommended Sequence of Full-time Courses

<table>
<thead>
<tr>
<th>Module</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EMT 114 Basic EMT I</td>
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<tr>
<td>EMT 124 Basic EMT II</td>
<td>4</td>
</tr>
<tr>
<td>EMT 126 Basic EMT Clinical Experience</td>
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</tbody>
</table>

Note: Program total hours may not include prerequisites.

EMERGENCY ROOM MULTI-SKILL HEALTHCARE TECHNOLOGY

- College Certificate: (CERT-ERT)
  Associate of Applied Science Degree: (ERHT-AAS)

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: 61 credit hours
  College Certificate: 20 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.
- 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.

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.

Continued on next page.
Emergency Room / Multi-Skill Healthcare continued

- 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 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.

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMT 114</td>
<td>Basic EMT I</td>
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<td>EMT 126</td>
<td>Basic EMT Clinical Experience</td>
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<tr>
<td>ERT 210</td>
<td>Emergency Room Technology</td>
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<tr>
<td>ERT 215</td>
<td>Emergency Room Technician</td>
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</table>

CERTIFICATE REQUIREMENTS

| SUBTOTAL | 30 |

CAREER COURSES

(Any 9 from the following courses)

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<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tbody>
<tr>
<td>BIO 240</td>
<td>Human Anatomy &amp; Physiology I</td>
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<td>PS 101</td>
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<td>ALH 105</td>
<td>Medical Math</td>
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<td>Anatomy &amp; Physiology I</td>
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<td>BIO 119</td>
<td>English I</td>
<td></td>
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<tr>
<td>BIO 155</td>
<td>Introductory to Biology</td>
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<tr>
<td>SOC 100</td>
<td>Introduction to Sociology</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<tbody>
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<td>EMT 124</td>
<td>Basic EMT II</td>
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<tr>
<td>EMT 126</td>
<td>Basic EMT Clinical Experience</td>
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<tr>
<td>ENG 119</td>
<td>English I</td>
<td></td>
</tr>
</tbody>
</table>

SEMMETER 1 TOTAL

| 12 |

SEMMETER 2

| ERT 210 | Emergency Room 1             | 6       |
| ERT 215 | Emergency Room Clinical      | 6       |

SEMMETER 2 TOTAL

| 12 |

ENTREPRENEURSHIP

**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.

Continued on next page.
Entrepreneurship continued

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.

Entrepreneurship: College Certificate
Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<tbody>
<tr>
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<td>ENT 100</td>
<td>Introduction to Entrepreneurship</td>
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<tr>
<td>BUS 175</td>
<td>Small Business Management</td>
<td>3</td>
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<tr>
<td>BL 201</td>
<td>Business Law I</td>
<td>3</td>
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<tr>
<td>BUS 177</td>
<td>Small Business Financing</td>
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<tr>
<td>SEMESTER 2</td>
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<tr>
<td>ENT 205</td>
<td>Operations Management for Small Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 225</td>
<td>Computer Applications in Business</td>
<td>3</td>
</tr>
<tr>
<td>MKT 200</td>
<td>Principles of Marketing</td>
<td>3</td>
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<tr>
<td>SEMESTER TOTAL</td>
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</tr>
<tr>
<td>SEMESTER 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENT 210</td>
<td>Human Resource Management for Small Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240</td>
<td>Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>BUS 221</td>
<td>Business Statistics</td>
<td>3</td>
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<tr>
<td>CIS 250</td>
<td>E-Commerce Strategies</td>
<td>3</td>
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<tr>
<td>SEMESTER TOTAL</td>
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<tr>
<td>CERTIFICATE TOTAL</td>
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<td>34</td>
</tr>
</tbody>
</table>

Note: Certificate totals may not include prerequisites.

FACILITY MAINTENANCE

- College Certificate: (FAM-CERT)
  Associate of Applied Science Degree: (FAM-AAS)

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, air conditioning and refrigeration, (HVAC/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 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.
- 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.

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

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.

Facility Maintenance: College Certificate
Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<td>SEMESTER 1</td>
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<tr>
<td>ENG 119</td>
<td>English I</td>
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<td>MAT 121</td>
<td>Technical Mathematics I</td>
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<tr>
<td>FM 101</td>
<td>Basic Facility Maintenance</td>
<td>3</td>
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<tr>
<td>FM 102</td>
<td>Plumbing &amp; Pipe Fitting</td>
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<tr>
<td>SEMESTER 2</td>
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<tr>
<td>EE 103</td>
<td>Residential Wiring</td>
<td>3</td>
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<tr>
<td>FM 103</td>
<td>Carpentry</td>
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<td>FM 104</td>
<td>General Maintenance</td>
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<td>SEMESTER 3</td>
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<tr>
<td>Elective: HVA Course</td>
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<tr>
<td>HVA 201</td>
<td>Introduction to Boiler Plant Maintenance</td>
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<tr>
<td>FM 105</td>
<td>Grounds Maintenance</td>
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<tr>
<td>CERTIFICATE TOTAL</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

Note: Certificate total hours may not include prerequisites.

Continued on next page.
FIRE PROTECTION TECHNOLOGY

- College Certificate: (CERT-FPT)
  - Associate of Applied Science Degree: (AAS-FPT)

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. WCCCD is a Regional Training Center certified through the Michigan Fire Fighters Training Council.

This program offers:
- Associate of Applied Science: (AAS-FPT)
  - Fire Administration 62 credit hours
- Associate of Applied Science: (AAS-FS)
  - Fire Suppression 62 credit hours
- College Certificate: (CERT-FPT)
  - Fire Protection Technology 20 credit hours

Program Goals
- To instruct students on the competencies and skills implored in the principles of fire protection technology.
- 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 operation.
- 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.
- Effectively 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.

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

College Certificate 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 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.
- Complete any prerequisite course with a “C” or better.
- Declare intent to enter the Fire Protection Technology program on the WCCCD application.
- Must be 18 years old on the day of State Examination.
- Successfully complete a minimum of 12 college credits with a “C” or better and/or have COMPASS scores that fulfill program requirements.
- Must submit a completed “Public Safety Program Application” packet.
- Have access to a computer and the internet.

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

CR. No. COURSE TITLE CREDITS 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.

Continued on next page.
### PROGRAM CURRICULA

**FPT: ADMINISTRATION PROGRAM**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE CREDITS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>SEMESTER TOTAL . . . . 16</td>
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</table>

**FPT: ADMINISTRATION PROGRAM TOTAL . . . . . . . . . . . . . . . . 62

**Note:** Program total hours may not include prerequisites.

**Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SEMESTER TOTAL . . . . 16</td>
</tr>
</tbody>
</table>

**Foodservice Systems Management**

- College Certificate: (FSS-CERT) Associate of Applied Science Degree: (FSS-AAS)

**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. Whenever 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 Foodservice Association (ASFSA).

**This program offers:**

- Associate of Applied Science: 66 credit hours
- College Certificate: 34 credit hours

**Program Goals**

- Students will be able to demonstrate a mastery of the knowledge, techniques, skills and standards in foodservice production and management.

**College Certificate Goals**

- Students will be proficiently apply foodservice sanitation principles 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.

**College 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.

**Program Outcomes**

- 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.

Continued on next page.
Foodservice Systems Management continued

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
• Complete an Allied Health Application
• 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.

• Declare intent to enter the Foodservice Systems Management program on the WCCCD admission application.
• Submit a transcript (copy) of grades earned for transfer and any courses completed at WCCCD
• Submit a background check from an agency of WCCCD’s choosing. Applicant cannot have any felony within 15 years of date of application

Foodservice Systems Management:
College Certificate
Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
</tr>
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<tbody>
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<td>SEMESTER 1</td>
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<tr>
<td>FSM 105</td>
<td>Principles of Foodservice Systems/PRACTICUM</td>
<td>3</td>
</tr>
<tr>
<td>FSM 130</td>
<td>Menu Planning and Nutrition</td>
<td>2</td>
</tr>
<tr>
<td>FSM 140</td>
<td>Principles of Food Preparation</td>
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<tr>
<td>FSM 140L</td>
<td>Principles of Food Preparation Lab</td>
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</tr>
<tr>
<td>FSM 146</td>
<td>Quantity Food Production: Practicum I</td>
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<tr>
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<tr>
<td>Student eligible for (3) National Restaurant Association (NRA) Certificates</td>
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<tr>
<td>FSM 115</td>
<td>Food Safety and Sanitation</td>
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<td>FSM 130</td>
<td>Menu Planning and Nutrition</td>
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<td>FSM 140</td>
<td>Principles of Food Preparation</td>
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<td>Principles of Food Preparation Lab</td>
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<tr>
<td>FSM 220</td>
<td>Food &amp; Beverage Cost Control</td>
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<td>ENG 134</td>
<td>Technical Communications</td>
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| SEMESTER 3 | | |
| 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.

Foodservice Systems Management:
Associate of Applied Science
Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
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<th>CREDITS</th>
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<tr>
<td>SEMESTER 1 (SUMMER / SPRING)</td>
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<td>FSM 105</td>
<td>Principles of Foodservice Systems/PRACTICUM</td>
<td>3</td>
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<tr>
<td>FSM 119</td>
<td>English I</td>
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<td>MAT 110</td>
<td>Business Mathematics</td>
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<td>BUS 225</td>
<td>Computer Applications in Business</td>
<td>3</td>
</tr>
<tr>
<td>BIO 155</td>
<td>Introductory Biology</td>
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</table>

| SEMESTER 2 (FALL) | | |
| FSM 240 | Computer Applications in Foodservice Lab | 3 |
| FSM 250 | Management of Foodservice Systems | 3 |
| FSM 255 | Management of Foodservice Systems Practicum III | 4 |
| SPA 101 | Fundamentals of Speech | 3 |
| SEMESTER TOTAL | | 13 |

| SEMESTER 3 (SPRING) | | |
| FSM 145 | Quantity Food Production | 3* |
| FSM 146 | Quantity Food Production: Practicum | 4* |
| FSM 230 | Purchasing for Foodservice Systems | 3** |
| FSM 235 | Foodservice Practicum II | 4* |
| SEMESTER TOTAL | | 14 |

| SEMESTER 4 (SUMMER) | | |
| FSM 240 | Computer Applications in Foodservice Lab | 3 |
| FSM 250 | Management of Foodservice Systems | 3 |
| FSM 255 | Management of Foodservice Systems Practicum III | 4 |
| SEMESTER TOTAL | | 13 |

| SEMESTER 5 (FALL) | | |
| ANT 154 | Introduction to Cultural Anthropology | 3 |
| LS 204 | Occupational Health & Safety | 3 |
| MKT 200 | Principles of Marketing | 3 |
| PS 101 | American Government | 3 |
| PSY 101 | Introduction to Psychology | 3 |
| PROGRAM TOTAL | | 66 |

Note: Program total hours may not include prerequisites.

FORENSIC PHOTOGRAPHY

• College Certificate: (CERT-FPG)

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, as well as, other evidence gathering related occupations.

There is a 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.

Continued on next page.
Forensic Photography continued

- 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.

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.

Forensic Photography: College Certificate

Recommended Sequence of Courses

<table>
<thead>
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<th>CR. No.</th>
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<tr>
<td>VDP 110</td>
<td>Introduction to Digital Photography</td>
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<td>Digital Photo Imaging I</td>
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<td>Introduction to Criminal Justice</td>
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<tr>
<td>LEA 201</td>
<td>Introduction to Law Enforcement</td>
<td>3</td>
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<tr>
<td>SOC 100</td>
<td>Introduction to Sociology</td>
<td>3</td>
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<td>VDP 120</td>
<td>Forensic Photography</td>
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<tr>
<td>LEA 230</td>
<td>Fundamentals of Criminal Investigation</td>
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<tr>
<td>VDP 210</td>
<td>Studio Photography I</td>
<td>3</td>
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<tr>
<td>VDP 235</td>
<td>Photojournalism</td>
<td>3</td>
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<tr>
<td>VDP 255</td>
<td>Forensic Photography Capstone Portfolio Project</td>
<td>3</td>
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<tr>
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</table>

Note: Certificate total hours may not include prerequisites.

GEOTHERMAL SYSTEMS TECHNOLOGY

- College Certificate (CERT-GST)

About the Program

The Geothermal Systems Technology College 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.

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.

Admission Requirements

Students are required to do the following:
- Fulfill all WCCCD admission requirements
- Fulfill course placement requirements based on COMPASS test.

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 Renewable Energy Heating and Cooling (REHC) Certificate may relate to their current work or business practices.

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.

Geothermal Systems Technology: College Certificate

Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>SEMESTER 1</td>
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<td></td>
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<tr>
<td>GTT 101</td>
<td>Principles of Thermogeology</td>
<td>3</td>
</tr>
<tr>
<td>MTH 121</td>
<td>Technical Mathematics I</td>
<td>3</td>
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<tr>
<td>RET 100</td>
<td>Renewable Energy/Alternative Energy Principles</td>
<td>4</td>
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<tr>
<td>SED 100</td>
<td>Principles of Sustainable Environmental Design</td>
<td>3</td>
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<tr>
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<tr>
<td>SEMESTER 2</td>
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<tr>
<td>HVA 101</td>
<td>Basic Refrigeration</td>
<td>4</td>
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<td>HVA 102</td>
<td>Hermetic Systems</td>
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<tr>
<td>GTT 105</td>
<td>Applications of Geothermal System</td>
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<tr>
<td>SED 120</td>
<td>Residential and Commercial Sustainable Design</td>
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<td>HVA 104</td>
<td>Power Energy Air Conditioning I</td>
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<td>HVA 105</td>
<td>Power Energy Air Conditioning II</td>
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<tr>
<td>GTT 201</td>
<td>Geothermal REHC Technology</td>
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<td>GTT 220</td>
<td>GHX Accreditation Exam Prep</td>
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</table>

Note: Certificate total hours may not include prerequisites.
GERONTOLOGY

• College Certificate: (GER-CERT)

About the Program
The Gerontology College Certificate program is designed to prepare students for direct service occupations in the care of seniors. Students are trained for positions in 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.

College Certificate Goals
• To proficiently prepare students to competently and ethically serve the gerontology community as a highly skilled care provider.

College 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:
• 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.

Gerontology: College Certificate
Recommended Sequence of Courses

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<thead>
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<th>CR. No.</th>
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<tr>
<td>GER 110</td>
<td>Introduction to the Study of Aging</td>
<td>3</td>
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<td>GER 115</td>
<td>Program/Services to the Aged</td>
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<td>HUS 135</td>
<td>Professionalism in Human Services</td>
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<tr>
<td>BUS 225</td>
<td>Computer Applications in Business</td>
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<tr>
<td>GER 120</td>
<td>Health and Physical Processes of Aging</td>
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<td>SW 105</td>
<td>Field Instruction I</td>
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<td>SW 108</td>
<td>Case Documentation</td>
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<td>GER 125</td>
<td>Mental Health and Aging</td>
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<tr>
<td>SW 106</td>
<td>Field Practicum II</td>
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<tr>
<td>SW 110</td>
<td>Case Management and Service Care Navigation</td>
<td>3</td>
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<tr>
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</table>

Note: Certificate total hours may not include prerequisites.

GLOBAL SUPPLY CHAIN MANAGEMENT

• College Certificate: (CERT-LOG)

About the Program
The Global Supply Chain Management College Certificate program is a unique business management program that prepares graduates for employment in the areas of global supply chain (logistics) management, inventory control, materials management, and distribution. The field of global supply chain 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, and supply chain management.

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 to qualified applicants.

• Fulfill all WCCCD admission requirements.
• Declare intent to enter the Global Supply Chain Management 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.

Global Supply Chain Management: College Certificate
Recommended Sequence of Courses

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<tr>
<td>BUS 130</td>
<td>Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>LOG 101</td>
<td>Principles of Logistics</td>
<td>3</td>
</tr>
<tr>
<td>MGT 205</td>
<td>Management Principles</td>
<td>3</td>
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<tr>
<td>MKT 200</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
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<tbody>
<tr>
<td>SEMESTER 2</td>
<td></td>
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<tr>
<td>LOG 104</td>
<td>Materials Management</td>
<td>3</td>
</tr>
<tr>
<td>LOG 105</td>
<td>Inventory and Warehouse Management</td>
<td>3</td>
</tr>
<tr>
<td>LOG 110</td>
<td>Transportation and Distribution</td>
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<td>LOG 200</td>
<td>International Supply Chain Management</td>
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<tr>
<td>LOG 106</td>
<td>Information Systems</td>
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<td>LOG 107</td>
<td>Purchasing</td>
<td>3</td>
</tr>
<tr>
<td>LOG 108</td>
<td>Introduction to Supply Chain Management</td>
<td>3</td>
</tr>
<tr>
<td>LOG 109</td>
<td>Materials Management</td>
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<tr>
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</table>

Note: Certificate total hours may not include prerequisites.
**GRAPHIC DESIGN TECHNOLOGY**

- College Certificate: (CERT-GDT)

**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. The Graphic Design Technology College Certificate has been developed to prepare students for entry level positions in a variety of industries that require computer aided graphic design. 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.

**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.

**Graphic Design Technology: College Certificate**

**Recommended Sequence of Courses**

<table>
<thead>
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<tr>
<td>ART 101</td>
<td>Drawing I</td>
<td>3</td>
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<td>CIS 110</td>
<td>Introduction to Computer Information Systems</td>
<td>4</td>
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<td>HUM 101</td>
<td>Introduction to Visual Arts</td>
<td>3</td>
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<td>PRN 101</td>
<td>Introduction to Print Technology</td>
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<tr>
<td>SEMESTER 2</td>
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<tr>
<td>ART 111</td>
<td>Design I</td>
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<tr>
<td>CIS 266</td>
<td>Introduction to Graphic Design</td>
<td>3</td>
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<tr>
<td>DMP 105</td>
<td>Media Programming</td>
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<td>OIS 227</td>
<td>Desktop Publishing I</td>
<td>3</td>
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<td>SEMESTER 3</td>
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<tr>
<td>ART 112</td>
<td>Design II</td>
<td>3</td>
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<td>MAT 100</td>
<td>Basic Mathematics</td>
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<td>OIS 228</td>
<td>Desktop Publishing II</td>
<td>3</td>
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<tr>
<td>PRN 101</td>
<td>Project Management</td>
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</table>

Note: Certificate total hours may not include prerequisites.

**HEATING, VENTILATION, AIR CONDITIONING (HVAC)**

- College Certificate: (HVAC-CERT) Associate of Applied Science Degree: (HVAC-AAS)

**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, commercial and industrial 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.

**College Certificate Outcomes**
- Students will be able demonstrate knowledge of basic principles of electricity, electrical current, circuitry and air conditioning devices.
- Demonstrate proper application and use of tools, test equipment, safety procedures, safety techniques of basic shop tools used in the refrigeration and air conditioning industry.
- Apply mathematical, reading, and communication skills essential to the HVAC service industry.
- Apply and describe the sequence of operation for industrial systems.
- Demonstrate proper application and use of tools, test equipment, safety procedures, safety techniques of basic shop tools used in the refrigeration and air conditioning industry.

**College Certificate Goals**
- To teach students the principles and technical application of installing heating, air and cooling systems according to Energy Service Company (ESCO) industry standards.
- Provide students a foundation of the basic principles associate with installing heating, air and cooling systems according to Energy Service Company (ESCO) industry standards.
- 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 conditioning industry.

**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.
- Demonstrate proper application and use of tools, test equipment, safety procedures, safety techniques of basic shop tools used in the refrigeration and air conditioning industry.
- Exhibit knowledge of safety and equipment used in HVAC field.

**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.
- Demonstrate proper application and use of tools, test equipment, safety procedures, safety techniques of basic shop tools used in the refrigeration and air conditioning industry.
- Exhibit knowledge of safety and equipment used in HVAC field.

**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.
<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tr>
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<tr>
<td>HVA 101</td>
<td>Basic Refrigeration</td>
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<td>HVA 102</td>
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<td>HVA 106</td>
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<td>HVA 107</td>
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</table>

**CAREER COURSES**

(Select 12 credit hours from the Career Course List below)

| SEMESTER TOTAL |                      | 12      |

**CAREER COURSES**

(Select 6 credit hours from the Career Course List below)

| CERTIFICATE TOTAL |                      | 30      |

**HEOMDIALYSIS PATIENT CARE SPECIALIST**

- College Certificate: (CERT-HDM)

**About the Program**

The Hemodialysis Patient Care Specialist College Certificate program trains students 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 College Certificate, students will also 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.

**College Certificate Goals**

- To prepare students for patient care roles in a Hemodialysis unit.

**Continued on next page.**
Hemodialysis Patient Care continued

College 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 technology, in a healthcare setting, to accomplish tasks of the profession.
- Understand, articulate and adhere to all ethical standards, moral and legal practices governing the profession.
- 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.
- 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.

Hemodialysis Patient Care Specialist:
College Certificate
Recommended Sequence of Courses

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<td>Computer Application in Business</td>
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<td>EMT 105</td>
<td>Medical First Responder</td>
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<tr>
<td>PLB 100</td>
<td>Phlebotomy Fundamentals</td>
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SEMMESTER TOTAL: 9

SEMMESTER 2:

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<tbody>
<tr>
<td>HMD 110</td>
<td>Hemodialysis Terms &amp; Principles</td>
<td>3</td>
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<tr>
<td>HMD 120</td>
<td>Anatomy and Physiology of the Kidney &amp; Urinary System</td>
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<tr>
<td>HMD 130</td>
<td>Surgical Principles of Peritoneal &amp; Vascular Access</td>
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SEMMESTER TOTAL: 9

SEMMESTER 3:

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<tr>
<td>HMD 140</td>
<td>Hemodialysis Patient Care Management</td>
<td>3</td>
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<tr>
<td>HMD 150</td>
<td>Hemodialysis Machine Setup &amp; Maintenance (Laboratory)</td>
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<td>ALH 230</td>
<td>Medical Ethics</td>
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SEMMESTER TOTAL: 10

SEMMESTER 4:

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<td>HMD 160</td>
<td>Hemodialysis Clinical Pharmacology</td>
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<td>HMD 170</td>
<td>Hemodialysis Clinical Practicum</td>
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SEMMESTER TOTAL: 9

CERTIFICATE TOTAL: 40

* Certificate total hours may not include prerequisites.

Homeland Security

- College Certificate: (CERT-HLS)

About the Program

The Homeland Security College Certificate 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 emphasize 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 Security College Certificate 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 for the field of homeland security management as a precursor towards the associate in applied science degree.

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.

Continued on next page.
**Homeland Security continued**

**Homeland Security Certificate Program**

**Recommended Sequence of Courses**

<table>
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<tr>
<td>SEMESTER 1</td>
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<tr>
<td>HLS 100</td>
<td>Introduction to Homeland Security</td>
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<tr>
<td>HLS 101</td>
<td>Introduction to Terrorism</td>
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<tr>
<td>HLS 201</td>
<td>Introduction to Intelligence</td>
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<tr>
<td>HLS 202</td>
<td>Homeland Security Emergency Management</td>
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<td>HLS 203</td>
<td>Counterterrorism for First Responders</td>
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**SEMESTER 2**

**CAREER COURSES**

(Select 15 credit hours from the list below)

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<th>COURSE TITLE</th>
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<tbody>
<tr>
<td>CJS 100</td>
<td>Introduction to Criminal Justice</td>
<td>3</td>
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<tr>
<td>LEA 201</td>
<td>Introduction to Law Enforcement</td>
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<tr>
<td>LEA 230</td>
<td>Introduction to Criminal Investigation</td>
<td>3</td>
</tr>
<tr>
<td>EMT 105</td>
<td>Medical First Responder</td>
<td>3</td>
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<tr>
<td>FPT 150</td>
<td>Principles of Emergency Service</td>
<td>3</td>
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<tr>
<td>FSM 115</td>
<td>Food Safety and Sanitation</td>
<td>3</td>
</tr>
<tr>
<td>HLS 104</td>
<td>Terrorism and Emergency Management Course</td>
<td>3</td>
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<td>HLS 105</td>
<td>Hazards Risk Management</td>
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<tr>
<td>SEMESTER TOTAL</td>
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</tbody>
</table>

**CERTIFICATE TOTAL** | 30

*Note: Certificate total hours may not include prerequisites.*

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**HOTEL AND RESTAURANT MANAGEMENT**

- **College Certificate: (CERT-HTM)**

**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.

**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.

**Hotel and Restaurant Management:**

**College Certificate**

**Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
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<tbody>
<tr>
<td>SEMESTER 1</td>
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<tr>
<td>HTM 105</td>
<td>Introduction to Hotel &amp; Restaurant Management</td>
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<tr>
<td>ACC 110</td>
<td>Principles of Accounting</td>
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<td>MKT 200</td>
<td>Principles of Marketing</td>
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<tr>
<td>HTM 210</td>
<td>Customer Service Management</td>
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**SEMESTER 2**

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<tr>
<td>HTM 106</td>
<td>Hotel &amp; Restaurant Management</td>
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<tr>
<td>BUS 225</td>
<td>Computer Applications in Business</td>
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<tr>
<td>HTM 200</td>
<td>Hotel and Restaurant Operations</td>
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**SEMESTER 3**

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<tbody>
<tr>
<td>HTM 225</td>
<td>Special Events and Catering Management</td>
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<td>HTM 299</td>
<td>Hotel Management Practicum</td>
<td>3</td>
</tr>
<tr>
<td>FSM 115</td>
<td>Food Safety and Sanitation</td>
<td>3</td>
</tr>
<tr>
<td>SEMESTER TOTAL</td>
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</tr>
</tbody>
</table>

**CERTIFICATE TOTAL CREDITS** | 31

*Note: Certificate total hours may not include prerequisites.*
INDUSTRIAL COMPUTER GRAPHICS TECHNOLOGY

• College Certificate: (ICGT-CERT)
  Associate of Applied Science Degree: (ICGT-AAS)

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: 61 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, pipelitting, 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.

College Certificate Goals
• To provide students a basic understanding of principles of mechanical design technology utilizing computer integration in the manufacturing industry.

College 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 ensure the production of quality products.
• Incorporate safety awareness, principles and practices of machine safety, environmental safety, chemical safety and personal/employee protection.

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).

Industrial Computer Graphics Technology:
College Certificate

Recommended Sequence of Courses

<table>
<thead>
<tr>
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<td>Blueprint Reading</td>
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<td>CAD 101</td>
<td>Fundamentals of Computer Aided Drafting</td>
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<td>CAD 110</td>
<td>Introduction to NX CAD/CAM</td>
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<tr>
<td>MAT 121</td>
<td>Technical Mathematics I</td>
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<td>MAN 110</td>
<td>Manufacturing Processes I</td>
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| SEMESTER 2 |
| DRT 102 | Fundamentals of Mechanical Drawing | 4 |
| CAD 102 | Advanced Computer Aided Drafting | 4 |
| CAD 222 | NX Solids Modeling | 4 |
| ENG 119 | English I | 3 |
| SEMESTER TOTAL | | 11 |

Continued on next page.
International Computer Graphics Technology: Associate of Applied Science

Recommended Sequence of Courses

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<td>DRT 110 Technical Drawing Applications</td>
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Note: Certificate total hours may not include prerequisites.

**SEMESTER 4**

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<td>ENG 134 Technical Communications</td>
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<td>PS 101 American Government</td>
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<td>Elective: Humanities</td>
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<td></td>
<td><strong>PROGRAM TOTAL</strong></td>
<td>.63</td>
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</table>

*Program total hours may not include prerequisites.

Program Outcomes

- 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.

**INTERNATIONAL BUSINESS**

- **College Certificate: (CERT-IBU)**

**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 organization’s 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.

**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).

Continued on next page.
LIBRARY TECHNOLOGY

• College Certificate: (CERT-LBT)

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.

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 users 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 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.

Library Technology: College Certificate
Recommended Sequence of Courses

CR. No. COURSE TITLE CREDITS

SEMESTER 1
BUS 150 Introduction to Business ............... 3
ENG 119 English I .................................. 3
SEMESTER TOTAL .................................. 6

SEMESTER 2
BUS 240 Business Communication .............. 3
ACC 110 Principles of Accounting I .......... 3
ENG 119 English I .................................. 3
SEMESTER TOTAL .................................. 9

SEMESTER 3
BUS 225 Computer Application in Business ............ 3
MAT 110 Business Mathematics ............ 3
SEMESTER TOTAL .................................. 6

CERTIFICATE TOTAL ................................. 27

Note: Certificate total hours may not include prerequisites.

LIGHT RAIL ENGINEERING TECHNOLOGY: ELECTROMECHANICAL

• Associate of Applied Science (LRTEM-AAS)

About the Program
The Light Rail Engineering Technology: Electromechanical Associate of Applied Science degree is designed to provide students with in-depth instruction in the field of Light Rail Engineering Technology (LRT). The program will prepare students for employment in the expanding light rail industry developing in urban areas nationwide. Students will be prepared to sit for standardized railroad worker certification exams upon completing the program. The AAS degree in Light Rail Engineering Technology will allow a career path for maintaining and repairing railcars through a degree orientation in electromechanical equipment.

This program offers:
- LRT: Electromechanical Associate of Applied Science: 64 credit hours

Program Goals
• To prepare students with a foundational understanding of railroad rules, regulations, operating procedures and safety provisions.
• To prepare a student to take an application exam on basic railroad knowledge and skills for employment in the railroad/light rail industry.

Continued on next page.
Program Outcomes

- Demonstrate a basic understanding of the operation of railcar electromechanical systems.
- Be able to diagnose and conduct troubleshooting and repairs of electromechanical systems on railcars.
- Be prepared to take an examination on electromechanical maintenance and repair for employment in the railroad industry.
- Demonstrate and have an understanding of railroad rules, regulations, operating procedures and safety provisions.
- Be able to diagnose and conduct troubleshooting and repairs of electromechanical systems on railcars.
- Be prepared to take an examination on electromechanical maintenance and repair for employment in the railroad industry.

Admission Requirements

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Complete WCCCD Program Application and submit to the Campus Chief Academic Officer.
- Fulfill course placement requirements based on COMPASS test.
- Students must complete AAA 000 with a “C” or better
- Students must complete WCCCD Program Application and submit to the Campus Chief Academic Officer.

Program Outcomes

- Associate of Applied Science (LRTSC-AAS)

About the Program

The Light Rail Engineering Technology: Signaling and Communications degree is designed to provide students with in-depth instruction in the field of Light Rail Engineering Technology (LRT). The program will prepare students for employment in the railroad/light rail industry to sit for standardized railroad worker certification exams for employment in the railroad industry maintaining and repairing rail line and railcars where signaling and communications systems are used.

This program offers:
- LRT: Signaling and Communications Associate of Applied Science: 63 credit hours

Program Goals

- The program will prepare a student to have a basic understanding of rules, regulations, operating procedures and safety provisions within the railroad and light rail industry.
- Prepare a student to take an application exam on basic railroad knowledge and skills for employment in the railroad/light rail industry.

Program Outcomes

- Demonstrate a basic understanding of the operation of a rail line and railcar signaling/communication systems.
- Be able to diagnose and conduct troubleshooting and repairs on signaling and communications systems along rail lines and on railcars.
- Be prepared to take an application exam on signaling and communications skills for employment in the railroad 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 AAA 000 with a “C” or better
- Students must complete WCCCD Program Application and submit to the Campus Chief Academic Officer.

Program CURRICULA
MANUFACTURING TECHNOLOGY
Associate of Applied Science Degree: (MANT-AAS)

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 the 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/numerically 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/numerically 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 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.

Manufacturing Technology: Associate of Applied Science Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>SEMESTER 1</td>
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</tr>
<tr>
<td>MAN 100</td>
<td>Shop Equipment &amp; Tools</td>
<td>3</td>
</tr>
<tr>
<td>NC 111</td>
<td>Numerical Control Concepts</td>
<td>3</td>
</tr>
<tr>
<td>DRT 101</td>
<td>Blueprint Reading</td>
<td>3</td>
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<tr>
<td>MAT 121</td>
<td>Technical Mathematics I</td>
<td>3</td>
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<tr>
<td>ENG 119</td>
<td>English I</td>
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<td>SEMESTER 2</td>
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<tr>
<td>MAN 110</td>
<td>Manufacturing Processes I</td>
<td>3</td>
</tr>
<tr>
<td>DRT 102</td>
<td>Fundamentals of Mechanical</td>
<td>3</td>
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<tr>
<td>CAD 101</td>
<td>Drawing</td>
<td>4</td>
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<tr>
<td>MAT 122</td>
<td>Technical Mathematics II</td>
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<tr>
<td>NC 222</td>
<td>CNC Machining &amp; Programming I</td>
<td>3</td>
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<tr>
<td>SEMESTER TOTAL</td>
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<tr>
<td>SEMESTER 3</td>
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<tr>
<td>NC 231</td>
<td>CNC Turning Center</td>
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<tr>
<td>DRT 115</td>
<td>Geometric Dimensioning and</td>
<td>3</td>
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<tr>
<td>MCT 202</td>
<td>Geometric Dimensioning and</td>
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<tr>
<td>MCT 208</td>
<td>Programming Logics</td>
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<td>SEMESTER TOTAL</td>
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<tr>
<td>SEMESTER 4</td>
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<tr>
<td>MAN 200</td>
<td>Quality &amp; Inspection</td>
<td>3</td>
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<tr>
<td>MAN 210</td>
<td>Nontraditional Manufacturing</td>
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<tr>
<td>FM 106</td>
<td>Safety and Support Services</td>
<td>3</td>
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<tr>
<td>PS 103</td>
<td>American Government</td>
<td>3</td>
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<tr>
<td>MAN 120</td>
<td>Survey of Material Science</td>
<td>3</td>
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<tr>
<td>Elective: Natural Science OR Social Science</td>
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</table>

Note: Program total hours may not include prerequisites.

MECHATRONICS TECHNOLOGY
• College Certificate: (CERT-MET)

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.

College 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.

College 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.

Continued on next page.
MECHATRONICS TECHNOLOGY continued

- Identify and demonstrate the ability to analyze and interpret the behavior of a physical system through experimentation.
- 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.

Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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</thead>
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<tr>
<td>CT 203</td>
<td>Digital Logic</td>
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<tr>
<td>CT 205</td>
<td>Introduction to Microprocessors</td>
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<tr>
<td>EE 101</td>
<td>Circuit Analysis I</td>
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<tr>
<td>EE 107</td>
<td>Math for E/E I</td>
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<td>SEMESTER 2</td>
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<tr>
<td>EE 102</td>
<td>Circuit Analysis II</td>
<td>4</td>
</tr>
<tr>
<td>EE 111</td>
<td>Solid State Devices</td>
<td>3</td>
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<tr>
<td>EE 115</td>
<td>Math for E/E II</td>
<td>4</td>
</tr>
<tr>
<td>MCT 202</td>
<td>Introduction to Robotics</td>
<td>3</td>
</tr>
<tr>
<td>MCT 208</td>
<td>Programmable Logic Controllers</td>
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<td>SEMESTER TOTAL</td>
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<td>SEMESTER 3</td>
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<tr>
<td>MCT 203</td>
<td>Electrical Machinery and Controls</td>
<td>3</td>
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<tr>
<td>MCT 207</td>
<td>Introduction to Hydraulics and Pneumatics</td>
<td>2</td>
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<tr>
<td>MCT 212</td>
<td>Advanced Robotics</td>
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<tr>
<td>MCT 215</td>
<td>Advanced Programmable Logic Controllers</td>
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<tr>
<td>SEMESTER TOTAL</td>
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<tr>
<td>CERTIFICATE TOTAL</td>
<td>44</td>
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</tr>
</tbody>
</table>

Note: Certificate total hours may not include prerequisites.

MENTAL HEALTH

- College Certificate: (MEH-CERT)

About the Program
The Mental Health 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:
College Certificate: 31 credit hours

College Certificate Goals
- Provide a basic foundation for students to serve Human Service clients and/or support human service agencies as paraprofessionals.

College 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.

Continued on next page.
MENTAL HEALTH continued

Mental Health: College Certificate

Recommended Sequence of Courses

CR. No. COURSE TITLE CREDITS

**SEMESTER 1**
- MEH 100 Introduction to Mental Health . . . . .3
- HUS 135 Professionalism in Human Services . . . . . .3
- SW 110 Case Management and Service Care . . . . . .3
- SEMESTER TOTAL . . . . . . . . . . . . . . . . . . . . . . .12

**SEMESTER 2**
- ADD 103 Co-Occuring Disorders . . . . . . . . . .3
- MEH 240 Psychopathology & Behavior I . . . . . . .3
- SW 105 Field Instruction I . . . . . . . . . . . . . . . .4
- SW 108 Case Documentation . . . . . . . . . . . . .2
- SEMESTER TOTAL . . . . . . . . . . . . . . . . . . . . .12

**SEMESTER 3**
- MEH 120 Direct Care Services in Community Settings . . . .3
- MEH 135 Mental Health in Criminal Justice . . . . . .3
- SW 106 Field Instruction II . . . . . . . . . . . . . . .4
- SEMESTER TOTAL . . . . . . . . . . . . . . . . . . . . . .12
- CERTIFICATE TOTAL . . . . . . . . . . . . . . . . . . . . .31

Note: Certificate total hours may not include prerequisites.

**NUMERICAL CONTROL TECHNOLOGY**

Associate of Applied Science Degree: (NCT-AAS)

**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 with 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.

**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 Programming II . . . . .3
- NC 234 CNC Machining & Graphics 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 . . . .3
- Elective: Natural Science . . . . . . . . . . . . . . . . .—-OR—-
- Social Science . . . . . . . . . . . . . . . . . . . . . . . .3
- SEMESTER TOTAL . . . . . . . . . . . . . . . . . . . . . .12
- PROGRAM TOTAL . . . . . . . . . . . . . . . . . . . . . .61

Note: Program total hours may not include prerequisites.
NURSING
Associate of Applied Science Degree: (NUR-AAS)

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 Graduate Outcomes
Upon successful completion of the WCCCD Nursing Program, the student will:
- Practice nursing with professional accountability.
- Demonstrate communication competency in professional interactions.
- Manage (leadership) health care resources and use the nursing process to meet the health needs of clients.
- Demonstrate clinical reasoning (critical thinking) when planning care for our individuals, families and groups.
- Integrate caring constructs into professional nursing activities.
- Integrate teaching and learning principles into health promotion (quality improvement) activities for individuals, families and groups.
- Collaborate with health care team members to promote health of individuals, families and groups.
- Integrate knowledge (information management) 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
The WCCCD Nursing program admits students twice a year in the Spring and Fall semesters. Admission is competitive and student selection is based on the following:
- High School transcript, copy of High School diploma or Certified GED scores.
- Official transcripts from all colleges and universities previously attended, including WCCCD.
- Students who attended other colleges must submit an “Evaluation of Advanced Standing”. This document provides a transfer credit evaluation of classes completed at other colleges that are being transferred to WCCCD. The student’s request for this evaluation must be received by WCCCD District Records Department by the deadline dates of: January 15th if applying for Fall admissions and May 1st if applying for Spring admissions.
- Two (2) original Reference Letters; one from employer and one personal reference, signed and dated within 30 days. If unemployed, submit two personal references. Letters written by family and faculty members are not accepted.
- Admission test results.
- Essay on Topics: “Why I Wish to Become a Nurse” and “How I Foresee Nursing in the Future.” The signed, original copy of essay, dated within 30 days must be submitted with application.
- Background Check via www.certifiedbackground.com Package Code is ay20. Report must be dated within 30 days of application.
- A Student Recommendation Form, if an applicant has been in a nursing program at another college.
- Any healthcare licenses from Michigan Department of Community Health (MCDH).
- Proof of current health care experience on an official letterhead.
- Original Information Meeting Attendance Verification Form.

PLEASE NOTE: WCCCD Nursing Program does not accept the College Level Examination Program (CLEP) to fulfill any program requirements.

Students are also required to complete the following:
- Fulfill all of WCCCD admission requirements.
- Fulfill WCCCD’s Nursing program admission requirements.
- Pass a background check, drug screen, and other health requirements.

Admission into the Nursing program is contingent upon all requirements being successfully met.

Degree Requirements
- Students must complete all coursework with a grade of “C” or better to meet graduation requirements.

Nursing: Associate of Applied Science Degree Recommended Sequence of Courses

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
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<tbody>
<tr>
<td>NUR 110</td>
<td>Nursing Foundations</td>
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<tr>
<td>NUR 118</td>
<td>Physical Assessment</td>
<td>2</td>
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<tr>
<td>NUR 112</td>
<td>Medical Surgical Nursing I</td>
<td>6</td>
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<tr>
<td>NUR 119</td>
<td>Pharmacology</td>
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</tr>
<tr>
<td>NUR 121</td>
<td>Medical Surgical Nursing II</td>
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PROGRAM TOTAL .......................... 16

Note: Program total hours includes prerequisites.

*Program totals do not include District remedial courses.
NURSING ASSISTANT TRAINING

Short-Term College Certificate: (S-CERT-CNA)

About the Certificate
The Nursing Assistant Training is a short-term certificate comprised of one (1) ten credit hour course:

NURSING ASSISTANT TRAINING:
NHS 100 Nursing Assistant ...............10

Course Description:
This course provides the theory and skills necessary to assist professional health care providers in providing direct patient care. Candidates will receive training to provide care in the classroom, lab and long-term facility settings. The curriculum is modeled according to the State of Michigan guidelines. Nurse aide students taking this course will be expected to adhere to guidelines and standards that will help them to be successful in the workplace setting.

Upon successful completion of the course, students are eligible to take the Michigan Nurse Aide Examination for CNA Certification.

Admission Requirements
• A high school diploma or equivalent GED
• Certified in Basic Life Support (BLS)
• Negative criminal background check
• Current physical examination conducted by a MD, PA, DO, or NP
• Negative Tuberculosis Test (TB) that is valid throughout the program
• Completed Hepatitis B series or a signed declination form
• 10-panel urine drug screen
• Current immunizations
• Two letters of reference

The Nursing Assistant course is offered each semester. It is a 10 credit course consisting of 94 contact hours over a 3.5 to 5-week period of time. Clinical experience is provided in 24 contact hours. Lab skills are provided in a laboratory setting and consist of 30 hours and lecture content is provided over 40 hours. Clinical experiences are conducted in a long term care facility.

OFFICE INFORMATION SYSTEMS: E-BUSINESS

• College Certificate: (CERT-EUS)

Associate of Applied Science Degree: (AAS-EBUS)

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.

Students will obtain the skills needed to understand the e-commerce world, create e-commerce web sites and conduct business online.

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.

College Certificate Goals
• To teach fundamental marketing and management concepts pertaining to e-business.

College 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 at the Admissions Office.
• Fulfill course placement requirements based on COMPASS test.

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.

College Certificate Goals
• To teach fundamental marketing and management concepts pertaining to e-business.

College 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 at the Admissions Office.
• Fulfill course placement requirements based on COMPASS test.

Continued on next page.
### OFFICE INFORMATION SYSTEMS: E-BUSINESS continued

- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

**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 should follow the Recommended Sequence of Courses.

### OIS: E-Business: College Certificate

**Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENG 119</td>
<td>English I</td>
<td></td>
</tr>
<tr>
<td>CIS 110</td>
<td>Introduction to Computer Information Systems</td>
<td></td>
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<tr>
<td>BUS 150</td>
<td>Introduction to Business</td>
<td></td>
</tr>
<tr>
<td>SPH 101</td>
<td>Fundamentals of Speech</td>
<td></td>
</tr>
<tr>
<td>MAT 113</td>
<td>Intermediate Algebra</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>SEMESTER TOTAL</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**SEMESTER 1**

- **BUS 228 Internet Web Page Design for Business Applications**: 3 credits
- **CIS 241 Internet Foundations**: 4 credits
- **BUS 225 Computer Application in Business**: 3 credits
- **MGT 205 Management Principles**: 3 credits
- **PS 101 American Government**: 3 credits
- **Elective: English**: 3 credits
- **SEMESTER TOTAL**: 16 credits

**SEMESTER 2**

- **BUS 228 Internet Web Page Design for Business Applications**: 3 credits
- **BL 201 Business Law I**: 4 credits
- **Elective: Social Science**: 3 credits
- **Elective: Humanities**: 3 credits
- **SEMESTER TOTAL**: 16 credits

**SEMESTER 3**

- **BUS 228 Internet Web Page Design for Business Applications**: 3 credits
- **BL 201 Business Law I**: 4 credits
- **Elective: Social Science**: 3 credits
- **Elective: Humanities**: 3 credits
- **SEMESTER TOTAL**: 16 credits

**SEMESTER 4**

- **CIS 250 E-Commerce Strategies and Practices**: 3 credits
- **MKT 200 Principles of Marketing**: 3 credits
- **Elective: Natural Science w/Lab**: 4 credits
- **Elective: Other**: 3 credits
- **SEMESTER TOTAL**: 13 credits
- **PROGRAM TOTAL**: 61 credits

Note: Program total hours may not include prerequisites.

### OFFICE INFORMATION SYSTEMS: OFFICE SPECIALIST

- **College Certificate: (CERT-OS)**
  - Associate of Applied Science Degree: (AAS-OS)

**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: 30 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.

**College Certificate Goals**

- To prepare students to be proficient in and understand the functionality 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.

**College 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 and submit to the Campus Academic Officer.
- 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.
## OIS: Office Specialist: Associate of Applied Science Degree

### Recommended Sequence of Courses

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<td>ENG 119 English I</td>
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<td>BUS 225 Computer Application in Business</td>
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<tr>
<td></td>
<td>BUS 150 Introduction to Business</td>
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<tr>
<td></td>
<td>SPH 101 Fundamentals of Speech</td>
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<td></td>
<td>MAT 113 Intermediate Algebra</td>
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<td><strong>SEMESTER 2</strong></td>
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<tr>
<td></td>
<td>OIS 227 Desktop Publishing I</td>
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<td>OIS 280 Office Administration and Professional Development</td>
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<td>PS 101 American Government</td>
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<td></td>
<td>Elective: Social Science</td>
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<tr>
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<td>Elective: English</td>
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<td><strong>SEMESTER 3</strong></td>
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<tr>
<td></td>
<td>OIS 251 Microsoft Word Specialist</td>
<td>3</td>
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<tr>
<td></td>
<td>OIS 252 Microsoft Excel Specialist</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>OIS 253 Microsoft PowerPoint Specialist</td>
<td>3</td>
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<tr>
<td></td>
<td>OIS 254 Microsoft Access Specialist</td>
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<tr>
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<tr>
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<td>Elective: Other</td>
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<td><strong>PROGRAM TOTAL</strong></td>
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Note: Program total hours may not include prerequisites.

## Paralegal Technology: Associate of Applied Science

### Recommended Sequence of Courses

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<tr>
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<th>COURSE TITLE</th>
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<td></td>
<td><strong>SEMESTER 1</strong></td>
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<tr>
<td></td>
<td>ENG 119 English I</td>
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<tr>
<td></td>
<td>MAT 113 Intermediate Algebra</td>
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<tr>
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<td>PLT 105 Legal Interviews and Investigation</td>
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<tr>
<td></td>
<td>ENG 120 English II</td>
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<td></td>
<td>SPH 105 Fundamentals of Speech</td>
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<tr>
<td></td>
<td>PLT 120 Legal Research Writing I</td>
<td>3</td>
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<td></td>
<td>PLT 135 Professional Responsibility/Legal Ethics</td>
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Note: Program total hours may not include prerequisites.

**Continued on next page.**
### Program Curricula

**Semester 3**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>Elective</td>
<td>Humanities</td>
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<td>PS 101</td>
<td>American Government</td>
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<tr>
<td>PLT 160</td>
<td>General Practice Survey</td>
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<td>PLT 170</td>
<td>Probate Law and Practice</td>
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<td>PLT 210</td>
<td>Administrative Law and Procedure</td>
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<tr>
<td>Elective</td>
<td>Social Science</td>
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**Semester Total** 18

**Semester 4**

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<td>Criminal Law Practice and Procedure</td>
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<td>PLT 245</td>
<td>Debtor Relief &amp; Creditor Rights</td>
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<tr>
<td>Elective</td>
<td>Other</td>
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</table>

**Semester Total** 16

**Program Total** 64

Note: Program total hours may not include prerequisites.

---

### Pharmacy Technology

**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.

### 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.
- 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.

### College 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.

### College Certificate Outcomes
- 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 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. 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 application to the program director.
  - Full 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.
  - Fulfill either of the following prerequisites: Pass Pharmacy Technician Assessment Test (PTAT) with a score of 85% or higher. (Source will be specified).
  - Successfully pass 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.

Continued on next page.
**Program Curriculum**

**Pharmacy Technology continued**

**Pharmacy Technology: College Certificate Recommended Sequence of Courses**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>PHT 100</td>
<td>Introduction to Pharmacy Technology</td>
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**PREREQUISITE TOTAL** 3

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<tbody>
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<td>PHT 105</td>
<td>Orientation to Pharmacy Technology</td>
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<tr>
<td>PHT 110</td>
<td>Institutional &amp; Community Pharmacy</td>
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**SEMESTER TOTAL** 10

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**SEMESTER 2**

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<tr>
<td>PHT 120</td>
<td>Drug Distribution Systems</td>
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<tr>
<td>PHT 130</td>
<td>Pharmaceutical Calculations &amp; Drug Preparation</td>
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<tr>
<td>BIO 295</td>
<td>Microbiology</td>
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**SEMESTER TOTAL** 14

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**SEMESTER 3**

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<td>PHT 155</td>
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<tr>
<td>PHT 210</td>
<td>Pharmacy Computer Systems</td>
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<tr>
<td>BIO 295</td>
<td>Microbiology</td>
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**SEMESTER TOTAL** 16

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**SEMESTER 4**

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<tr>
<td>MAT 155</td>
<td>College Algebra</td>
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<tr>
<td>ECO 101</td>
<td>Principles of Economics I</td>
<td>3</td>
</tr>
<tr>
<td>PHL 211</td>
<td>Introduction to Logic</td>
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**SEMESTER TOTAL** 16

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**SEMESTER 5**

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<td>BIO 252</td>
<td>Pathophysiology</td>
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<tr>
<td>CHM 145</td>
<td>General Chemistry II</td>
<td>4</td>
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<tr>
<td>MAT 156</td>
<td>Trigonometry</td>
<td>4</td>
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<tr>
<td>ENG 120</td>
<td>English II —OR—</td>
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<tr>
<td>ENG 270</td>
<td>Professional &amp; Technical Report Writing</td>
<td>3</td>
</tr>
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</table>

**SEMESTER TOTAL** 15

**PROGRAM TOTAL** 89

---

**College Certificate Requirements**

- All science classes must be completed within (5) five years.

---

**Phlebotomy Technology: College Certificate Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tr>
<td>PLB 100</td>
<td>Introduction to Phlebotomy II</td>
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**SEMESTER TOTAL** 12

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**SEMESTER 1 (Fall)**

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<td>ALH 115</td>
<td>Medical Computer Systems</td>
<td>3</td>
</tr>
<tr>
<td>PLB 110</td>
<td>Introduction to Phlebotomy II</td>
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**SEMESTER TOTAL** 12

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**SEMESTER 2 (Spring)**

<table>
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<td>BIO 155</td>
<td>Introductory Biology</td>
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<tr>
<td>PLB 105</td>
<td>Introduction to Phlebotomy II Practicum</td>
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**SEMESTER TOTAL** 10

**PROGRAM TOTAL** 22

---

**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.

---

**Phlebotomy Technology: Associate of Applied Science Degree**

**Recommended Sequence of Courses**

<table>
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<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tbody>
<tr>
<td>PHT 100</td>
<td>Introduction to Pharmacy Technology</td>
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<tr>
<td>BIO 155</td>
<td>Introductory Biology</td>
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<td>ENG 119</td>
<td>English I</td>
<td>3</td>
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<tr>
<td>PS 101</td>
<td>American Government</td>
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<tr>
<td>BUS 205</td>
<td>Computer Applications in Business</td>
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</tbody>
</table>

**PREREQUISITE TOTAL** 16

---

**Program Total Hours may not include prerequisites.**

---

**Phlebotomy Technician**

**College Certificate: (PLT-CERT)**

**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 patient 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.

---

**Admission Requirements**

Students are required to complete the following:

- Fulfill all WCCCD admissions requirements.
- 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).
- After successfully completing PLB 100 with a “B” or better, the student must complete an Allied Health Application and declare program intent.
- Successfully pass a drug screening exam. (Sources will be specified).

---

**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.

---

**College Certificate Requirements**

- All science classes must be completed within (5) five years.
**PRE-ENGINEERING**

**Associate of Science Degree**: (PREE-AS)

**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 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.

**Recommended Sequence of Courses**

<table>
<thead>
<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tr>
<td>CHM 136</td>
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<td>CIS 209</td>
<td>C Programming Language</td>
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<td>MAT 271</td>
<td>Analytic Geometry &amp; Calculus III</td>
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<td>Elective</td>
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<td>PHY 265</td>
<td>Physics for Scientists and Engineers I</td>
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<td>MAT 272</td>
<td>Linear Algebra</td>
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<td>PHY 275</td>
<td>Physics for Scientists and Engineers II</td>
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<td>American Government</td>
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<td><strong>PROGRAM TOTAL</strong></td>
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</table>

Note: Program total hours may not include prerequisites.

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**PRE-MORTUARY SCIENCE**

**Associate of Applied Science Degree**: (AAS-MS)

**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 the health, safety and care 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 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

**Recommended Sequence of Courses**

<table>
<thead>
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<td>ENG 119</td>
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<tr>
<td>SOC 101</td>
<td>Introduction to Sociology</td>
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<tr>
<td>BIO 125</td>
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<tr>
<td>ENG 120</td>
<td>English II</td>
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<tr>
<td>SOC 120</td>
<td>Death and Dying</td>
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<tr>
<td>BIO 240</td>
<td>Human Anatomy and Physiology I</td>
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<tr>
<td>BUS 150</td>
<td>Introduction to Business</td>
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<td><strong>SEMESTER 3</strong></td>
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<td>SPH 101</td>
<td>Fundamentals of Speech</td>
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<td>ACC 110</td>
<td>Principles of Accounting I</td>
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<td>BIO 250</td>
<td>Human Anatomy and Physiology II</td>
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<td>BUS 240</td>
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Continued on next page.
PRE-MORTUARY SCIENCE continued

SEMESTER 5
CHM 225 Microbiology  .......... 4
ENG 120 English II ............... 3
PS 101 American Government .... 3
SECTERM TOTAL .................. 14
PROGRAM TOTAL .................. 61

Note: Program total hours may not include prerequisites.

PRE-PHYSICIAN ASSISTANT
Associate of Applied Science Degree: (PPA-AAS)

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.

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.
• 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 fraud or theft against.

Pre-Physician Assistant: Associate of Applied Science
Recommended Sequence of Courses

CR. No.  COURSE TITLE  CREDITS
SEMESTER 1
ALH 110  Medical Terminology ............... 3
ENG 119  English I  ......................... 3
Elecive: 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
Elecive: Social Science .................... 3
SEMESTER TOTAL .................. 13

SEMESTER 3
BIO 240  Human Anatomy and Physiology 4
CHM 136  General Chemistry ............... 4
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
Elecive: 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 (PSW-AA)

**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

**Pre-Social Work: Associate of Arts Degree Recommended Sequence of Courses**

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<td>MAT 155</td>
<td>College Algebra</td>
<td>4</td>
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<tr>
<td>PS 101</td>
<td>American Government</td>
<td>3</td>
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<tr>
<td>SOC 103</td>
<td>Social Problems</td>
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| **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**

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<td>Anthropology</td>
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**SEMESTER 4**

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<td>ECO 101</td>
<td>Principles of Economics I</td>
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<td>PSY 220</td>
<td>Child Growth and Development</td>
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**SEMESTER 5**

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<td>PHL 211</td>
<td>Introduction to Logic</td>
<td>3</td>
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<tr>
<td>SPH 101</td>
<td>Fundamentals of Speech</td>
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<tr>
<td><strong>PROGRAM TOTAL</strong></td>
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</table>

Note: Program total hours may not include prerequisites.

**PROJECT MANAGEMENT**

- **College Certificate: (CERT-PRM)**

**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: College Certificate

<table>
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<tr>
<th>CR. No.</th>
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<tbody>
<tr>
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<tr>
<td>BUS 150</td>
<td>Introduction to Business</td>
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<td>CIS 110</td>
<td>Introduction to Computer Information System Services</td>
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<td>Introduction to Project Management</td>
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<tr>
<td>BUS 240</td>
<td>Business Communication</td>
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<td>CIS 112</td>
<td>Structured Design</td>
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<td>PRM 105</td>
<td>Project Management Tools</td>
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<td>PRM 210</td>
<td>Intermediate Project Management Methods</td>
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<td>PRM 215</td>
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<td>CIS 285</td>
<td>Introduction to Database Science Concepts</td>
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<td>MAT 155</td>
<td>College Algebra</td>
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<tr>
<td>PRM 220</td>
<td>Advanced Concepts in Project Management</td>
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Note: Certificate total hours may not include prerequisites.

### Renewable Energy: College Certificate

#### Recommended Sequence of Courses

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<td>Renewable Energy/Alternative Energy Principles</td>
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<td>RET 140</td>
<td>Energy and Electricity</td>
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<td>RET 142</td>
<td>Wind Power</td>
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<td>SED 100</td>
<td>Principles of Sustainable Environmental Design</td>
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<td>Conventional Energy Sources &amp; Application</td>
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<td>RET 144</td>
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<td>RET 146</td>
<td>Geothermal and Hydropower</td>
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<td>Sustainable Systems</td>
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<tbody>
<tr>
<td>CERTIFICATE TOTAL</td>
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<td>25</td>
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</table>

Note: Certificate total hours may not include prerequisites.

### College Certificate Outcomes

- Students will be able to demonstrate basic principles of energy efficiency and conservation.
- Identify, troubleshoot and repair and maintain equipment efficiency.

### Renewable Energy: College Certificate

The Renewable Energy College Certificate is designed to provide students with the theoretical knowledge necessary for a career in energy management and renewable energy technology fields. 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 renewable energy field.

The certificate requires a minimum of 25 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 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.

### College Certificate Goals

- To teach and provide students with the knowledge and skills for entry-level employment opportunities in the industry.
- To provide students currently employed in the industry with knowledge and skills relevant to 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.

### Surplus Technology

#### Associate of Applied Science Degree: (SURT-AAS)

#### About the Program

The Surgical Technology program offers a variety of degree, transfer and associate programs at WCCCD. The program addresses the need for an alternative career track for students to pursue careers in the renewable energy field.

The Surgical Technology program offers:

1. Surgical Technology Associate of Applied Science Degree: (SURT-AAS) 68 credit hours
2. Accelerated Alternative Delivery (AAD): (AAD-CERT) 36 credit hours
3. Central Service Technician Certificate: (S-CERT SURT) 10 credit hours
4. First Assistant College Certificate: (CERT-SEA) 16 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.

Continued on next page.
SURGICAL TECHNOLOGY continued

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 technology 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 Association of Surgical Technologists (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 Technology program by submitting an Allied Health Department application to the program director.
- Must complete criminal background check, physical exam, Hepatitis B (HBV) shots, and other health requirements.
- Complete all prerequisites with a grade of “B” or better.
- Possess current Basic Life Support (BLS)/CPR card.
- 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.
- Valid State Picture I.D.
- 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.

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

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<thead>
<tr>
<th>SEMESTER 1</th>
<th>COURSE TITLE</th>
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<td>SUR 110</td>
<td>Surgical Technology Principles</td>
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<tr>
<td>SUR 120</td>
<td>Surgical Specialties &amp; Techniques I</td>
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<td>SUR 125</td>
<td>Surgical Technology Clinical I</td>
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<tr>
<td>SUR 130</td>
<td>Surgical Specialties &amp; Techniques II</td>
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<td>SUR 140</td>
<td>Surgical Pharmacology</td>
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<td>SUR 145</td>
<td>Surgical Technology Clinical II</td>
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<td>SUR 155</td>
<td>Surgical Technology Clinical III</td>
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<tr>
<td>SUR 160</td>
<td>Surgical Seminar and Certification Preparatory</td>
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Note: Program total hours may not include prerequisites. Program totals do not include remedial courses.

* Only if needed.
A Student who is applying for this experiential learning 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.

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 Association of Surgical Technologist (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 distancelearning@wcccd.edu or (313) 496-2734 for more information.
- Show proof of a current CPR card.

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.
- Surgical Technology (SUR) 126 – Surgical Technology Clinical II 4 credits hours.
- Surgical Technology (SUR) 127 – Surgical Technology Clinical III 6 credit hours.

NOTE: A Student who is applying for this experiential learning 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.

College Certificate Goals
- To prepare students with knowledge and technical skills to effectively perform duties relevant to a Central Service Technician.

The Surgical Technology Clinical Service Technician program is accredited by the Commission on Accreditation of Allied Health Education programs (www.caabep.org) upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting. 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 healthcare 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 relevant to a Central Service Technician.

Continued on next page.
SURGICAL TECHNOLOGY: CENTRAL SERVICE TECHNICIAN continued

• 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.
  • Must complete criminal background check, physical exam, Hepatitis B (HBV) shots, and other health requirements.
  • 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.
• Valid State Picture I.D.
• 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 in accordance with hospital policy and appropriate laws and regulations. The SFA provides aid in surgical instruments on tissues.

Surgical Technology: Central Service Technician Program College Certificate Recommended Sequence of Courses

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<tr>
<th>CR. No.</th>
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<tr>
<td>SEMESTER 1</td>
<td>SUR 100 Orientation to Surgical Technology</td>
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<td>SUR 101 Central Service Technician</td>
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| SEMESTER 2 | SUR 102 Central Service Technician Lab | 4 |
| SEMESTER TOTAL | | 4 |
| CERTIFICATE TOTAL | | 10 |

Note: Certificate total hours may not include prerequisites.

About the Program

The Surgical First Assistant (SFA) program is accredited by the Commission on Accreditation of Allied Health Education programs (www.caahep.org) upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting. 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 also 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.

Continued on next page.
To be admitted into the Surgical First Assistant program:
• 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.
• 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

College Certificate: (CERT-SED)

About the Program
The Sustainable Environmental Design 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 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 Sustainable Buildings and Sites 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.

Continued on next page.
Sustainable Environmental Design: College Certificate

Students are required to do the following:

- Fulfill course placement requirements based on COMPASS test.
- 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.
- Prepare LEED Certified Professional exam.
- 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.

Recommended Sequence of Courses

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<tr>
<th>CR. No.</th>
<th>COURSE TITLE</th>
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<tr>
<td>SED 100</td>
<td>Principles of Sustainable Environmental Design</td>
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<td>SED 120</td>
<td>Residential and Commercial Sustainable Design</td>
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<td>SED 140</td>
<td>Sustainable Materials</td>
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<tr>
<td>SED 142</td>
<td>Sustainable Sites</td>
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<td>SED 144</td>
<td>Ecologically Aware Interiors</td>
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<td>SED 146</td>
<td>Sustainable Project Management</td>
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<td>SED 200</td>
<td>LEED Certification Exam Preparation</td>
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<td>SED 220</td>
<td>Sustainable Environmental Design Capstone</td>
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Note: Certificate total hours may not include prerequisites.

TEACHER EDUCATION: ELEMENTARY EDUCATION

Associate of Arts Degree: (AA-TEE)

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.
- 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 Teacher Education program by completing a program 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 119 English I
  - HIS 249 U.S. History I 1607-1865
  - 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.

Continued on next page.
### VETERINARY TECHNOLOGY

**Associate of Applied Science Degree: (VETT-AAS)**

**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 institution.

**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 application or change program intent in the campus admissions office.
- Complete a program application packet by June 1st of the year you are planning to enter the program. (Includes resume, 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.
- 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 40 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.

**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.

**Admission to the Program**
Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Complete a program application packet by June 1st of the year you are planning to enter the program
- Complete an interview qualifying candidates

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.

**Admission to the Program**

Students are required to do the following:

- Fulfill all WCCCD admission requirements
- Complete a program application packet by June 1st of the year you are planning to enter the program
- Complete an interview qualifying candidates

- 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 40 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.

Continued on next page.
VETERINARY TECHNOLOGY continued

- All candidates for the Veterinary Technology Program would need to take the Health Occupations Aptitude Examination (HOAE). Results are used in conjunction with GPA and other factors in the admission process.

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

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<th>CR. No.</th>
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<td>Introductory Biology</td>
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<td>ENG 119</td>
<td>English I</td>
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<td>Elective: Humanities or Social Science</td>
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<tr>
<td>ALH 105</td>
<td>Medical Math</td>
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<tr>
<td>BIO 205</td>
<td>Microbiology</td>
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PREREQUISITE TOTAL 17

**SEMESTER 1**

| VTP 103 | Laboratory Animal Medicine – Lecture | 2 |
| VTP 104 | Laboratory Animal Medicine – Laboratory | 2 |
| VTP 123 | Veterinary Technology Practicum I | 4* |
| CHM 105 | Introduction to Chemistry – Lec/Lab | 4 |

SEMESTER TOTAL 12

**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

WATER AND ENVIRONMENTAL TECHNOLOGY

- **College Certificate: (CERT-WET)**

**About the Program**

The Water Environment Technology (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
- Fullfill course placement requirements based on COMPASS test.
- Students must complete WCCCD Program Application and submit to the Campus Academic Officer.

Water and Environmental Technology: College Certificate

Recommended Sequence of Courses

<table>
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<td>CHM 105</td>
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<td>Waste Water Treatment Technologies</td>
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SEMESTER TOTAL 12

**SEMESTER 2**

| BUS 225 | Computer Applications in Business | 3 |
| WET 210 | Advanced Waste Water Treatment Technologies | 3 |
| WET 212 | Advanced Water Treatment Technologies | 3 |
| WET 215 | Water Quality Analysis and WET Instrumentation | 3 |

SEMESTER TOTAL 12

Continued on next page.
WATER AND ENVIRONMENTAL TECHNOLOGY continued

SEMESTER 3
WET 220 Water Quality Analysis and Microbiology ................. 3
WET 224 Water/Waste Water Utility Equipment Maintenance ....... 2
WET 265 Practicum ............................................. 3
CERTIFICATE TOTAL ............................................. 32

Note: Certificate total hours may not include prerequisites.

WELDING TECHNOLOGY

• College Certificate
  Associate of Applied Science Degree: (WELT-AAS)

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 matched with the American Welding Society (AWS) certification Levels: 1, 2 and 3. 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 fabrication, weld quality testing; working with specialized welding practices and troubleshooting. Each welding course consists of an introduction; competencies; general performance goals/objectives; specific performance objectives and mastery criteria. The certificates are stacked so that a student will complete a level and be ready to test out at the AWS certificate level while continuing on seamlessly for an associate degree.

This program offers:
Associate of Applied Science: 66 credit hours
College Certificate – General: 32 credit hours
College Certificate – Advanced: 29 credit hours
College Certificate – Specialized: 28 credit hours
College Certificate – Artistic Welding: 37 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 welding design problems and creating welding joints and steel welds by applying American Welding Society (AWS) economic justification and welding connection performance measures and methods.
• Exhibit proficiency in successfully completing the certification exam for Welders with a proficiency score of 75% or better.
• Demonstrate competence and applied knowledge of the welding, brazing and cutting processes and technology.
• 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 welding design problems and creating welding joints and steel welds by applying American Welding Society (AWS) economic justification and welding 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.

WLT: General Welding – Level 1 (WLTG-CERT):
College Certificate
Recommended Sequence of Courses

CR. NO. COURSE TITLE CREDITS
Semester 1
FM 106 Safety and Support Service ........... 3
WLT 101 Arc/Oxygen – Acetylene Welding ..................... 5
WLT 103 Gas Tungsten Arc Welding ............ 5
Semester Total ........................................... 13

Semester 2
ENG 119 English I ................................. 3
MAT 121 Technical Mathematics I ........... 3
DRT 101 Blueprint Reading ...................... 3
Semester Total ........................................ 9

Semester 3
WLT 104 Tungsten Inert Gas Welding ...... 5
WLT 105 MIG/Flux-Core/Plasma Welding ........... 5
Semester Total ..................................... 10

WLT: GENERAL WELDING CERTIFICATE TOTAL .................. 32

Note: Certificate total hours may not include prerequisites.

Continued on next page.
### WELDING TECHNOLOGY continued

**WLT: Advanced Welding – Level 2 (WLTAW-CERT):**

**Recommended Sequence of Courses**

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**SEMESTER 2**

| Elective: Welding          | 3       |
| WLT 107 | Welding Fabrication II   | 3       |
| **SEMESTER TOTAL**         | **12**  |

**SEMESTER 3**

| ENG 134 | Technical Communications | 3       |
| WLT 112 | Troubleshooting and Repair | 3       |
| **SEMESTER TOTAL**         | **6**   |

**WLT: Advanced Welding Certificate Total** | **28**

**WLT: Specialized Welding – Level 3 (WLTSW-CERT):**

**Recommended Sequence of Courses**

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<td><strong>SEMESTER TOTAL</strong></td>
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**SEMESTER 2**

| FM 106  | Safety and Support Service                | 3       |
| WLT 104 | Tungsten Inert Gas Welding                | 5       |
| WLT 105 | MIG/Flux-Core/Plasma Welding              | 5       |
| **SEMESTER TOTAL** |                              | **13**  |

**SEMESTER 3**

| ENG 119 | English I                                 | 3       |
| MAT 121 | Technical Mathematics I                   | 3       |
| PS 103  | American Government                       | 3       |
| WLT 102 | Arc Welding                               | 5       |
| **SEMESTER TOTAL** |                                  | **14**  |

**SEMESTER 4**

| ENG 134 | Technical Communications                   | 3       |
| Elective: Humanities                  | 3       |
| MAT 122 | Technical Mathematics II                   | 3       |
| WLT 106 | Welding Fabrication                        | 3       |
| **SEMESTER TOTAL**         | **12**  |

**WELDING TECHNOLOGY: ARTISTIC**

**Welding Technology: Associate of Applied Science**

**Recommended Sequence of Courses**

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<td><strong>SEMESTER TOTAL</strong></td>
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**SEMESTER 2**

| FM 106  | Safety and Support Service                | 3       |
| WLT 104 | Tungsten Inert Gas Welding                | 5       |
| WLT 105 | MIG/Flux-Core/Plasma Welding              | 5       |
| **SEMESTER TOTAL** |                              | **13**  |

**SEMESTER 3**

| ENG 119 | English I                                 | 3       |
| MAT 121 | Technical Mathematics I                   | 3       |
| PS 103  | American Government                       | 3       |
| WLT 102 | Arc Welding                               | 5       |
| **SEMESTER TOTAL** |                                  | **14**  |

**SEMESTER 4**

| ENG 134 | Technical Communications                   | 3       |
| Elective: Humanities                  | 3       |
| MAT 122 | Technical Mathematics II                   | 3       |
| WLT 106 | Welding Fabrication                        | 3       |
| **SEMESTER TOTAL** |                                  | **12**  |

**WELDING AAS: PROGRAM TOTAL** | **64**

**Note:** Program total hours may not include prerequisites.

### WELDING TECHNOLOGY: ARTISTIC

**College Certificate: (ARTW-CERT)**

**About the Program**

The Artistic Welding Certificate is designed for the beginner or advanced welder or artist. The program will give students the opportunity to explore the basics of welding and metal sculpture. Students will learn basic safety, set-up and operation of Oxy-Acetylene cutting, MIG welding, TIG welding as well as Plasma cutting and fabrication equipment. Artistic development will be encouraged through fabrication techniques, critiques, and lectures. Students will develop a body of work that is cohesive in concept, material and/or subject. An artist statement and presentation of work during critiques will help the student become confident and prepared to display or sell work.

**College Certificate Goals**

- To introduce the student to working with metal to create a welded sculpture and to explore welding techniques that enhance sculptural expression.
- To teach students welding proficiency and apply technical skills required in metal fabrication and construction applicable to art and also traditional metal fabrication.
- Students will be able to demonstrate proper safety, set-up and operation of welding equipment and proper safety, set-up and operation of fabrication equipment.
- Apply critical thinking and mathematical reasoning to the welding process.
- Be able to fabricate a 3-Dimensional Sculpture out of metal.
- Be able to identify different metals.
- Discuss their work in an objective and conceptual way.
- Have a body of work that represents their concept, medium and/or subject.

**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.

**Artistic Welding: College Certificate Recommended Sequence of Classes**

<table>
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<tr>
<td>ART 101</td>
<td>Drawing I</td>
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<td><strong>SEMESTER TOTAL</strong></td>
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**SEMESTER 2**

| ART 111 | Design I                            | 3       |
| WLT 105 | MIG/Flux-Core/Plasma Welding (FT W/104) | 5       |
| WLT 110 | Introduction to Metal Sculpture     | 4       |
| **SEMESTER TOTAL** |                                | **12**  |

| ART 112 | Design II                           | 3       |
| WLT 111 | Advanced Metal Sculpture            | 4       |
| WLT 102 | Arc Welding                         | 5       |
| **SEMESTER TOTAL** |                                | **12**  |

| **CERTIFICATE TOTAL** | **37** |

**Note:** Certificate total hours may not include prerequisites.
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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
This course is a study of basic Federal and State Income Tax regulations with an emphasis on the skills necessary for the preparation of individual income tax returns. Included are filing requirements, determination of taxable income, allowable deductions, tax computation, tax credits, other taxes, payment methods, and audit procedures. Development of proficiency in the preparation of individual, federal, state and municipal tax returns.

ACC 110 4 C/60 CH
Principles of Accounting I
This course covers the fundamentals of financial accounting to include current accounting theories and practices, presented from a financial and managerial viewpoint. Other topics include journal and ledger techniques, working papers, financial statements, inventory evaluation, depreciation methods, financial resources and cost/revenue matching will also be reviewed.

ACC 111 4 C/60 CH
Principles of Accounting II
Prerequisite: ACC 110
This course covers the fundamentals of managerial accounting to include; partnership and corporate accounting, including bonds. Other topics include 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
An in-depth study of accounting theory, analysis of stockholder's equity (capital stock, retained earnings, dividends) assets cash, receivables, inventories and investments. Analysis of fixed assets, statement of cash flows, the time values of money and the difference in the preparation of balance sheets according to U.S. Accounting Principles and International Financial Reporting Standards. (IFRS)

ACC 211 3 C/45 CH
Intermediate Accounting II
Prerequisite: ACC 210
This course is an analysis of Accounting for investments, pensions, current and long-term liabilities. Additional concepts include accounting for leases, stockholder’s equity, accounting changes and prior period error corrections and earnings per share of common stock.

ADDICTION STUDIES (ADD)

ADD 103 3 C/45 CH
Co-Occurring Disorders
Prerequisite: ADD 110
This course imparts the philosophies, practices, policies, and outcomes of the most generally accepted and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for co-occurring disorders.

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 112 3 C/45 CH
Addictions and Criminal Justice
Prerequisite: ADD 110
This course is intended to provide students with a broad overview of the interdisciplinary nature of the drug crime linkage and addiction treatment within the criminal justice system. The course will introduce the student to the issue of substance abuse treatment within the context of the criminal justice system. The course examines the points along the criminal justice system continuum where substance abuse intervention programs exist. Perspectives, policies and goals of the criminal justice and treatment systems will be presented.

ADD 130 3 C/45 CH
Assessment, Diagnosis and Treatment of Addictions
Prerequisite: ADD 110
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.

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/60 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.

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

Continued on next page.
AFRICAN-AMERICAN STUDIES continued

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.

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 Gestural Communication
This introductory course is a continuation of the initial introductory American Sign Language course (ASL 101). Continuation and skill enhancement through instruction and practice is designed to create confidence in the language.

ASL 105 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.

ASL 107 4 C/60 CH
Introduction to the American Deaf Culture
This course 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.

ANTHROPOLOGY (ANT)

ANT 150 1 C/15 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 151 2 C/30 CH
Introduction to Genealogical Research
This course provides an overview of the principles, ethics and technology utilized to conduct a personal genealogical search. Students will learn ethical best practices, establish a genealogical proof standard, employ and execute basic search techniques and exhibit an understanding of genealogical records associated with the research process.

Continued on next page.
ANTHROPOLOGY (ANT) continued

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/45 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/45 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/45 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/45 CH
Design I
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 112 3 C/45 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 drafting 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 (ART) continued

ART 132 Ceramics II
Lab fee
Prerequisite: ART 131
This course places an emphasis on the use of the potter’s wheel and related skills. Students in this course will continue to use and improve their primary hand building (slab & coil) and wheel throwing techniques, while producing their required assignments. An exploration of glazing, stacking and firing of kilns, developing a potter’s vocabulary, and a further study of Ceramic History are also covered by this course.

ART 133 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 134 Sculpture II
Lab fee
Prerequisite: ART 131
This course places an emphasis on the use of the potter’s wheel and related skills. Students in this course will continue to use and improve their primary hand building (slab & coil) and wheel throwing techniques, while producing their required assignments. An exploration of glazing, stacking and firing of kilns, developing a potter’s vocabulary, and a further study of Ceramic History are also covered by this course.

AST 101 Astronomy: 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.

AUT 114 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 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.

AUT 115 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 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 116 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.

AUT 117 Electrical/Electronic Systems IV
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.

AUT 118 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.

Continued on next page.
AUTOMOTIVE SERVICE TECHNOLOGY (AUT) Continued

AUT 119 3 C/60 CH
Engine Performance II
Lab fee
Prerequisites: AUT 114, AUT 115, AUT 116, AUT 117
Co-requisite: 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: AUT 114, AUT 115, AUT 116, AUT 117
Co-requisite: AUT 203
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 transaxes. On-vehicle inspection, diagnosis and repair are performed by the student.

AUT 121 3 C/60 CH
Steering & Suspension I
Lab fee
Prerequisites: AUT 114, AUT 115, AUT 116, AUT 117
Co-requisite: AUT 204
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: AUT 114, AUT 115, AUT 116, AUT 117, AUT 118, AUT 209
Co-requisite: AUT 216
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 transaxes. On-vehicle inspection, diagnosis and repair are performed by the student.

AUT 123 3 C/60 CH
Engine Repair I
Lab fee
Prerequisites: AUT 114, AUT 115, AUT 116, AUT 117
Co-requisite: AUT 207
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 124 4 C/75 CH
Heating and Air Conditioning I
Lab fee
Prerequisites: AUT 114, AUT 115, AUT 116, AUT 117
Co-requisite: AUT 208
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 125 3 C/60 CH
Manual Drive Train & Axles
Lab fee
Prerequisites: AUT 114, AUT 115, AUT 116, AUT 117
Co-requisite: AUT 209
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 126 3 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 127 4 C/60 CH
Introduction to Hybrid 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.

C = Credits CH = Contact Hours HL = Hours Lecture HLB = Hours Lab
F = Fall Sp = Spring Sm = Summer
AUTOMOTIVE SERVICE TECHNOLOGY (AUT) Continued

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 inspect, 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. Understanding of employment opportunities, "pertain 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, Co-requisite: 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, Co-requisite: 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, Co-requisite: 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, Co-requisite: 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, Co-requisite: 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, Co-requisite: 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.

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.

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.

Continued on next page.
AVIATION TECHNOLOGY: AIRFRAME (AFM) continued

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’s 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 aircraft to include turbojet, turboprop and turboshaft 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 systematic identification of problems that develop in turbine engines including intake, compressor, ignition, combustion, power, exhaust, bleed air and fuel.

BIO-MEDICAL EQUIPMENT REPAIR TECHNOLOGY (BET)

BET 110 3 C/45 CH
Bio-Medical Instrumentation and Safety I
Prerequisite: EE 101, EE 102, EE 107, EE 111, EE 115, CT 205, ENG 134, EE 205, CT 209, BIO 155
Students will be introduced to the Bio-Medical profession and terminology. Usage, definition, pronunciation and spelling of terms related to anatomy, medical equipment, electronic test equipment and safety will be introduced. Students will become aware of the fundamentals of medical equipment and testing concepts.

BET 210 3C/45 CH
Bio-medical Instrumentation and Safety II
Prerequisite: BET 110
This course is designed to provide students with knowledge on how to properly manage and maintain medical equipment in the hospital setting. Fundamental principals related to Bio-Medical Equipment Repair Technology will also be discussed in this course.

BET 240 3C/45 CH
Biomedical Equipment Repair Technology Sp
Prerequisite: BET 110
This course provides observations and participation in structured learning roles and activities within a hospital setting or with an employer in the Bio-Medical field. Students will be required to complete 300 hours at an approved practicum site.

BET 250 3C/45 CH
Biomedical Equipment Repair Technology Practicum II
Prerequisites: BET 210, BET 240
This course provides observations and participation in structured learning roles and activities within a hospital setting or with an employer in the Bio-Medical field. Students will be required to complete 300 hours at an approved practicum site.

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
This course 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 HL/30 HLB
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 life science concepts.
BIOLOGY (BIO) continued

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 in a classroom (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)

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 HL
Pathophysiology
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/45 HL/45 HLB
Microbiology
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 will be discussed. 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).

Continued on next page.
CHEMISTRY (CHM) continued

CHM 136 General Chemistry I 4 C/60 HL/30 HLB 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).

CHM 145 General Chemistry II 4/60 HL/30 HLB 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 complexon equilibria, thermodynamics and electrochemistry (meets six hours per week; four hours lecture and two hours laboratory).

CHM 155 Survey Organic & Biochemistry 4 C/60 HL/30 HLB 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 Organic Chemistry I 4 C/60 CH
Prerequisite: CHM 145 Corerequisite: 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).

COURSE DESCRIPTIONS

CHM 252 Organic Chemistry II 4 C/60 CH
Prerequisite: CHM 250 Corerequisite: CHM 252
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).

CCH 101 Early Childhood Education 3 C/45 CH
Introduction to Early Childhood Education
Students will be prepared to promote Child Development and Learning from children birth to age eight. Their knowledge base will allow them to understand children’s characteristics and needs and the multiple interacting influences on children’s development and learning to create environments that are healthy, respectful, supportive, and challenging for each child.

CCH 104 Methods & Techniques in Child Care: Infant & Toddler Development 4 C/60 CH
Prerequisites: CCH 101, EMT 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 CCH 104 must complete CCH 257.

CCH 106 Preschool Development 4 C/60 CH
Prerequisites: CCH 101, EMT 101
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 CCH 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 CCH 106 must enroll in ENG 285.

CCT 101 Early Childhood Education 3 C/45 CH
Introduction to Early Childhood Education
Students will be prepared to promote Child Development and Learning from children birth to age eight. Their knowledge base will allow them to understand children’s characteristics and needs and the multiple interacting influences on children’s development and learning to create environments that are healthy, respectful, supportive, and challenging for each child.

CCT 111 Child Assessment Techniques 3 C/45 CH
Prerequisites: CCH 101, EMT 101
Students will understand that child observation, documentation, and other forms of assessment are central to the practice of all early childhood professionals. The students will be knowledgeable of effective systematic observation, documentation, and the goals, benefits, and uses/strategies of assessment. Additionally, students will learn how to partner with parents and other professional in a respectful and responsible manner to positively influence the development of every child.

CCT 120 Family and Community Relationships 3 C/45 CH
Co-requisite: CCH 101 and EMT 101
Students will be prepared to understand successful early childhood education depends upon partnerships with children’s families and communities. The students will be knowledgeable, understand, and value the importance and complexity of characteristics of children’s families and communities. Additionally, students will learn how to create respectful, reciprocal, relationships that support and empower families and to involve families in their child’s development and learning.

CCT 157 Child Care Practicum & Seminar I 4 C/164 CH
Prerequisites: ENG 119, HUS 105, HUS 135, CCH 101, CCH 104 or CCH 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. Students will be required to complete 180 hours field placement experience in a childcare/pre-school setting.

Continued on next page.
COURSE DESCRIPTIONS

CHILD CARE TRAINING (CCT)

CCT 210 3 C/45 CH
Special Populations F, Sp
Prerequisites: CCT 101, EMT 101
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, Sp
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.

CHINESE (CHN)

CHN 101 4 C/60 CH
Elementary 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. An appreciation of Chinese culture will be an integral part of the course.

CHN 102 4 C/60 CH
Elementary Chinese II F, Sp, Sm
This is the Second course of elementary Chinese. The course provides the fundamentals of basic sentence structure, basic grammars, and essential simplified characters, with particular emphasis placed on speaking and understanding Mandarin Chinese. Emphasis is on grammatical constructions, vocabulary, and development of conversational Chinese. The course helps students obtain basic methods to learn Chinese, laying the foundation to study Chinese at a higher level. An appreciation of Chinese culture will be an integral part of this course.

COMMUNITY COLLEGE ORIENTATION (CCO)

CCO 100 1 C/15 CH
Community College Orientation F, Sp, Sm
This course is designed to introduce new students to the college environment and enhancing basic study skills. The 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
Prerequisite: CIS 110
Designed to introduce problem solving methods, algorithms, design and programming, 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.

Continued on next page.
COURSE DESCRIPTIONS

COMPUTER INFORMATION SYSTEMS (CIS) continued

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.

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
Prerequisite: CIS 110, CIS 210, CIS 244
This class is a comprehensive course that teaches students how to install a website and keep it 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
In this course the student will learn about 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/restore 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 the 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 overview 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.

Continued on next page.
COURSE DESCRIPTIONS

COMPUTER INFORMATION SYSTEMS (CIS) continued

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.

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
Prerequisite: 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 201, 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 (Structured 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 environment.

COMPUTER TECHNOLOGY (CT)

CT 203 4 C/75 CH
Digital Logic I
Lab fee
Prerequisite: CT 201
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: CT 203
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
This 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 I - CompTIA A+
Lab fee
Prerequisite: CT 207
Recommended: CT 203
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, Windows XP and Vista. This course and CT 210 prepares students for the A+ certification exams.

CT 210 6 C/90 CH
Computer Repair II - CompTIA A+
Prerequisite: CT 209
The student will gain the experience required to build, troubleshoot and repair current microcomputer systems. This course provides in-depth troubleshooting of Windows 2000/XP, VISTA and Windows 7. This course covers introduction to networking. This course and CT 209 prepare students for the A+ certification exams.

CT 211 4 C/60 CH
Computer Networking I
Prerequisite: CT 209
Installing, Configuring, and Administering Microsoft Windows XP Professional. Also includes 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 213 4 C/60 CH
Computer Networking II
Prerequisite: CT 211
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 215 4 C/60 CH
Computer Networking III
Sp
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
Su
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.

C = Credits  CH = Contact Hours  HL = Hours Lecture  HLB = Hours Lab
F = Fall  Sp = Spring  Sm = Summer
### COURSES DEPICTED

**CORRECTIONS (COR)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Contact Hours</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COR 100</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Introduction to Corrections. The course will familiarize the student with common medical emergencies as well as variations in 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.</td>
</tr>
<tr>
<td>COR 101</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Introduction to Juvenile Justice. 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.</td>
</tr>
<tr>
<td>COR 200</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>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.</td>
</tr>
<tr>
<td>COR 205</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Institution Corrections Personnel. An in-depth study of the purpose of prisons and correctional institutions. The course will familiarize the student with common medical emergencies as well as variations in 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.</td>
</tr>
<tr>
<td>COR 210</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Correctional Institution Facilities. This course will examine 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.</td>
</tr>
<tr>
<td>COR 215</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Correctional Fieldwork. 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.</td>
</tr>
<tr>
<td>COR 218</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Race Relations - COR Personnel. An in-depth study of the purpose of prisons and correctional institutions. The course will familiarize the student with common medical emergencies as well as variations in 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.</td>
</tr>
<tr>
<td>COR 255</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Legal Issues in Corrections. An in-depth study of the purpose of prisons and correctional institutions. The course will familiarize the student with common medical emergencies as well as variations in 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.</td>
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</tbody>
</table>

**CRIMINAL JUSTICE (CJS)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Contact Hours</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJS 100</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Introduction to Criminal Justice. 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.</td>
</tr>
<tr>
<td>CJS 201</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>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.</td>
</tr>
<tr>
<td>CJS 205</td>
<td>3</td>
<td>C/45 CH</td>
<td>CJS 100</td>
<td>Legal Issues in Corrections. An in-depth study of the purpose of prisons and correctional institutions. The course will familiarize the student with common medical emergencies as well as variations in 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.</td>
</tr>
</tbody>
</table>

**DENTAL (DEN)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Contact Hours</th>
<th>Prerequisite(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEN 100</td>
<td>3</td>
<td>C/45 CH</td>
<td>Program Admission</td>
<td>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 and medical 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.</td>
</tr>
<tr>
<td>DEN 112</td>
<td>2</td>
<td>C/30 CH</td>
<td>Program Admission</td>
<td>Medical and Dental Emergencies. 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.</td>
</tr>
<tr>
<td>DEN 200</td>
<td>2</td>
<td>C/30 CH</td>
<td>Program Admission</td>
<td>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.</td>
</tr>
<tr>
<td>DEN 201</td>
<td>1</td>
<td>C/30 CH</td>
<td>Program Admission</td>
<td>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.</td>
</tr>
</tbody>
</table>
### DENTAL ASSISTING (DA)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Contact Hours</th>
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</thead>
<tbody>
<tr>
<td>DA 104</td>
<td>3</td>
<td>3/75 CH</td>
</tr>
<tr>
<td>Applied Sciences</td>
<td>4</td>
<td>4/60 CH</td>
</tr>
<tr>
<td>DA 107</td>
<td>2</td>
<td>2/30 CH</td>
</tr>
<tr>
<td>Clinical Dental Assisting</td>
<td>3</td>
<td>3/60 CH</td>
</tr>
<tr>
<td>Preventive Dentistry</td>
<td>1</td>
<td>1/15 CH</td>
</tr>
<tr>
<td>Clinical Practice I</td>
<td>120</td>
<td>120 C/15 Seminar</td>
</tr>
<tr>
<td>Clinical Dental Assisting</td>
<td>2</td>
<td>2 C/CH</td>
</tr>
<tr>
<td>Dental Specialties</td>
<td>2</td>
<td>2 C/CH</td>
</tr>
<tr>
<td>Legal, Ethical &amp; Communication Issues</td>
<td>2</td>
<td>2 C/50 CH</td>
</tr>
</tbody>
</table>

### DENTAL HYGIENE (DHY)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 105</td>
<td>3</td>
<td>3/45 CH</td>
</tr>
<tr>
<td>Dental Office Management</td>
<td>2</td>
<td>2 C/30 CH</td>
</tr>
</tbody>
</table>

### CÔURSE DESCRIPTIONS

**Introduction to Expanded Functions**  
Prerequisite: Program Acceptance  
A lecture and laboratory course which provides the student with a fundamental knowledge of the Dental cements and materials commonly used in dental practice.  
Lecture: Presents physical, chemical, and manipulative characteristic of impression materials, cements, bases, cavity liners, cavity varnishes, waxes, composites, gypsum products, metals, and resins. Laboratory: Prepares students to correctly manipulate dental cements and 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; and demonstrate mixing techniques for dental cements and impression materials.

**Preventive Dentistry**  
Prerequisite: Acceptance into the Dental Assisting Program  
This course provides students with a basic understanding of patient education with an emphasis on individualized oral health counseling. The course also 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.

**Clinical Practice I**  
Prerequisite: DA 104, DA 106, DA 110  
This course is designed to prepare the students to share their experiences.

**Clinical Dental Assisting**  
Prerequisite: Acceptance into the Dental Assisting Program  
This is a lecture and laboratory course with emphasis placed on infection control protocol and chair side four-handed dental assisting skills. Lecture: Presents concepts of the dental health term including the history of dentistry and the Dental career fields will be discussed. Emphasis is placed on Personal protection equipment, data collection, dental equipment and chair side ergonomics. Dental terminology, professionalism and ethics, and basic four-handed dental assisting procedures. Laboratory: To include the practice of four-handed dental techniques. Instrument identification, instrument tray set-ups. Demonstration of Infection Control procedures in the dental operator.

**Pathology, Pharmacology & Medical/Dental Emergencies**  
Prerequisite: DA 106  
The topics discussed during the course include: emergency carts/sits, 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 emergency cart management, 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. Perform monitoring of Nitrous Oxide-Oxygen analgesia.

**Fundamentals of Dental Hygiene**  
Prerequisite: Program Admission  
This lecture/laboratory course is designed to prepare the student to sit for the State of Michigan Registered Dental Assisting (RDA) licensure examination. Expanded functions allowed under Michigan law will be taught. Topics to be included but not limited to are: placement and removal of a rubber dam, fabrication and cementation of temporary crowns, removing excess cement from supragingival surfaces, selective coronal polishing prior to application of anticariogenics materials, mouth mirror inspection and charting of the oral cavity, taking final impressions and charting of the oral cavity, taking final impressions and charting of the oral cavity, taking final impressions and charting of the oral cavity, taking final impressions and charting of the oral cavity.

**Dental Office Management**  
Prerequisite: DA 104, DA 106, DA 110  
This lecture course is an introduction to basic dental practice management procedures. In addition, using computer software to schedule appointments, maintain patient information and record keeping. Inventory of supplies, recall systems and third party payment plans will be presented.

**Expanded Functions for the Dental Assistant**  
Prerequisite: DA104, DA 106, DA 107, 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.

**Expanded Functions for the Dental Assistant**  
Prerequisite: DA104, DA 106, DA 107, DA 110  
This course is a continuation of Clinical Practice I. Students will be assigned to a dental practice setting for continued practice in chairside clinical dental assisting. There is a 15 hour seminar in addition to the field experience. 225 clinical hours.

**Clinical Practice II**  
Prerequisite: DA 117  
This course will also prepare a resume and job search plan.
DENTAL HYGIENE (DHY) continued

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/extroral examination, dental charting, periodontal charting, basic instrumentation, and use of the explorer 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
This course provides an in-depth study of the morphology and function of primary and permanent teeth, including all of the structures involved in the mechanism of mastication, primary and permanent tooth eruption schedules and anatomical forms, function of primary and permanent dentition, vocabulary used to describe teeth and other structures in the oral cavity and the principles of occlusion. Included is a detailed study of the skeletal, muscular, circulatory and nervous systems of the head and neck.

DHY 111 3 C/45 CH
Histology and Oral Embryology
Prerequisites: DHY 101, DHY 110, DHY 120
Basic principles of histology and embryology are reviewed with emphasis on tissues of the oral cavity and contiguous structures. Histology and 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 teeth.

DHY 120 3 C/30 CH
Clinical Techniques
Prerequisite: Program Admission
Corequisite: DHY 101
This course is designed to develop skills in the techniques utilized for dental hygiene practice. Students will practice techniques on mannequins and student partners in the clinical setting. Each topic covered in the didactic course DHY 101 will be practiced and evaluated in this course.

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.

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 adherance 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 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 expands on the foundations of clinical dental hygiene. Through the incorporation of case studies students will develop critical thinking skills to review assessment data and formulate a dental hygiene diagnosis for the purpose of developing a dental hygiene care plan including plans for implementation and evaluation. Topics to support the process include are limited to, the identification of risk factors for periodontal disease (CAMBRA), advanced power scaling and instrumentation techniques, adjunctive clinical procedures and nutritional counseling.

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 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.
DENTAL HYGIENE (DHY) continued

COURSE DESCRIPTIONS

treatment effectiveness based on the patient 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 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. Pharmacology encompasses the therapeutic application of medicines, toxicity and practical and legal issues pertaining to the development, marketing and dispensing of drugs.

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 pathological 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 compliance with Michigan Law.

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). The role of the dental hygienist in treatment planning and providing preventive care for various population groups will be explored.

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 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 230, 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.

DHY 225 3 C/45 CH
Management of Special Patients
Prerequisites: DHY 209, DHY 210
Introduces the characteristics and unique dental health care 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.

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 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 to include career alternatives, job seeking skills, resume preparation, licensure requirements, rules and regulations and state practice acts. Course information will assist the student in applying legal and regulatory concepts to the practice of dental hygiene.

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 control. Treatment includes implementation of various clinical dental hygiene services and an evaluation of treatment effectiveness based on the patient 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.

Continued on next page.
DENTAL HYGIENE (DHY) continued

DHY 231 Community Dentistry
Prequisites: 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 designed 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.

DHY 233 Dental Hygiene Seminar
Prequisites: DHY 219, DHY 220
Provides 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.

DENTAL HYGIENE (DHY) continued

Dental Hygiene Seminar

DIETETIC TECHNOLOGY (DT)

DT 130 Fundamentals of Nutrition
Prequisite: BIO 155
Fundamentals of Nutrition provides a sound and complete 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, pre-natal, infant, pre-school and elderly populations.

DIGITAL MEDIA PRODUCTION (DMP)

DMP 101 Story Elements for a Digital Environment
3 C/45 CH
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 Digital Video Production I
3 C/45 CH
Prerequisite: DMP 101
This course will teach students the basics of digital video production and editing. Students will learn about digital video cameras, editing software, file organization and management, sound creation, and DVD creation.

DMP 103 Digital Video Production II
3 C/45 CH
Prerequisite: DMP 102
This course will expand on the basics of digital video production and editing. Students will learn advanced techniques in video production, including the use of the Final Cut Pro software.

DMP 104 Digital Audio Production
3 C/45 CH
This course is an introduction to the theory and techniques of digital audio production, including the development and design of programming for audio broadcast production. Students 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.

DMP 105 Media Programming
3 C/45 CH
This class develops media literacy skills, so that students can critique the basic dynamics that shape current media production 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 current media programming and gives a clearer understanding of the simulated media world. The seminar covers topics such as new stories, advertising, writing for the internet, blogs and social media.

DMP 106 Digital Audio Production II
3 C/45 CH
Prerequisite: DMP 104
This course expands on the fundamentals of audio production as it pertains to film and video begun in DMP 104. Students will learn advanced techniques in audio production. Students will assemble their own video and audio productions as a part of this class.

DMP 107 Televison
3 C/45 CH
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.

DMP 108 Advanced Audio Production
3 C/45 CH
Prerequisite: DMP 106
This course covers advanced audio production techniques for film and television. Students will learn advanced audio editing techniques and apply them to real-world projects.

DMP 109 Advanced Video Production
3 C/45 CH
Prerequisite: DMP 105
This course covers advanced video production techniques for film and television. Students will learn advanced video editing techniques and apply them to real-world projects.

DMP 110 Digital Media Programming
3 C/45 CH
Prerequisite: DMP 109
This course covers digital media programming techniques for film and television. Students will learn advanced programming techniques and apply them to real-world projects.

DMP 111 Digital Media Programming
3 C/45 CH
This course covers digital media programming techniques for film and television. Students will learn advanced programming techniques and apply them to real-world projects.

DMP 112 Broadcast Operations
3 C/45 CH
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.

DMP 113 Acting For The Camera
3 C/45 CH
This course covers acting theory, television and film acting. Students will learn about the basics of acting for the camera, including the use of the camera and the simulated media world. This cutting-edge approach, which encourages the acquisition of strong knowledge structures and analytical skills, includes current media programming and gives a clearer perspective of the boundaries between the real world and the simulated media world. The seminar covers topics such as new stories, advertising, writing for the internet, blogs and social media.

DMP 114 Writing for the Media
3 C/45 CH
Prerequisite: ENG 119
This course covers 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.

DMP 115 Marketing
3 C/45 CH
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.

COURSE DESCRIPTIONS

C = Credits CH = Contact Hours HL = Hours Lecture HLB = Hours Lab F = Fall Sp = Spring Sm = Summer
**DRAFTING (DRT)**

<table>
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<tr>
<th>Course Code</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DRT 101</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Blueprint Reading</td>
<td></td>
<td>F, Sp, Sm</td>
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</tbody>
</table>

Fundamentals of blueprint reading as applied to specific problems. Designed for pre-engineers, draftsmen, machine operators, machine repairmen, electronic technicians, inspectors and supervisors.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>DRT 102</td>
<td>4</td>
<td>4 C/90 CH</td>
</tr>
<tr>
<td>Fundamentals of Mechanical Drawing</td>
<td></td>
<td>F, Sp, Sm</td>
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</tbody>
</table>

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.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>DRT 112</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Technical Drawing Applications</td>
<td></td>
<td>Prerequisite: DRT 102</td>
</tr>
</tbody>
</table>

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.

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<tr>
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<tr>
<td>DRT 113</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Descriptive Geometry</td>
<td></td>
<td>5p</td>
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</table>

Prerequisite: DRT 102

Occupational oriented solutions to descriptive geometry problems involving points, lines, planes and single and double curved surfaces and their intersections.

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<thead>
<tr>
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<tbody>
<tr>
<td>DRT 115</td>
<td>2</td>
<td>2 C/30 CH</td>
</tr>
<tr>
<td>Geometric Dimensioning and Tolerancing</td>
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<td>F, Sp</td>
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</table>

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, machinist, 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)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 101</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Principles of Economics I</td>
<td></td>
<td>F, Sp, Sm</td>
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</tbody>
</table>

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.

<table>
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<tbody>
<tr>
<td>ECO 102</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Principles of Economics II</td>
<td></td>
<td>F, Sp, Sm</td>
</tr>
</tbody>
</table>

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.

<table>
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<tbody>
<tr>
<td>ECO 223</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Consumer Economics</td>
<td></td>
<td>Sp</td>
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</tbody>
</table>

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.

<table>
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<tbody>
<tr>
<td>ECO 272</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Money and Banking</td>
<td></td>
<td>F, Sp</td>
</tr>
</tbody>
</table>

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.

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</tr>
<tr>
<td>Money and Banking</td>
<td></td>
<td>F, Sp</td>
</tr>
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</table>

Prerequisite: ECO 102

This course is an analysis of the circuits 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)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EE 101</td>
<td>4</td>
<td>4 C/90 CH</td>
</tr>
<tr>
<td>Circuit Analysis I</td>
<td></td>
<td>F, Sp, Su</td>
</tr>
</tbody>
</table>

Co-requisite: EE 107

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.

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</thead>
<tbody>
<tr>
<td>EE 102</td>
<td>4</td>
<td>4 C/80 CH</td>
</tr>
<tr>
<td>Circuit Analysis II</td>
<td></td>
<td>F, Sp, Su</td>
</tr>
</tbody>
</table>

Prerequisite: EE 101

Co-requisite: EE 115

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, invariance, passive filters bandwidth, Q, Qa circuit, polyphase systems and transformers. Instruments such as multimeters, power supplies, signal generators, and oscilloscopes are used.

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</thead>
<tbody>
<tr>
<td>EE 103</td>
<td>3</td>
<td>3 C/45 CH</td>
</tr>
<tr>
<td>Residential Wiring</td>
<td></td>
<td>F</td>
</tr>
</tbody>
</table>

Prerequisite: EE 101

This course covers diodes, transistors, power supplies, limiters, clippers, clamps, 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.

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<tbody>
<tr>
<td>EE 105</td>
<td>2</td>
<td>2 C/45 CH</td>
</tr>
<tr>
<td>Electronic Fabrication &amp; Design</td>
<td></td>
<td>F, Sp</td>
</tr>
</tbody>
</table>

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.

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<tr>
<td>EE 107</td>
<td>4</td>
<td>4 C/60 CH</td>
</tr>
<tr>
<td>Math for E/E I</td>
<td></td>
<td>F, Sp, Sm</td>
</tr>
</tbody>
</table>

Co-requisite: EE 101

This course covers diodes, transistors, power supplies, limiters, clippers, clamps, 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.

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<tr>
<td>EE 111</td>
<td>3</td>
<td>3 C/60 CH</td>
</tr>
<tr>
<td>Solid State Fundamentals</td>
<td></td>
<td>F, Sp, Sm</td>
</tr>
</tbody>
</table>

Prerequisite: EE 101

This course covers diodes, transistors, power supplies, limiters, clippers, clamps, 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.

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<tbody>
<tr>
<td>EE 115</td>
<td>4</td>
<td>4 C/60 CH</td>
</tr>
<tr>
<td>Math for E/E II</td>
<td></td>
<td>Sp</td>
</tr>
</tbody>
</table>

Co-requisite: EE 107

Provides detailed coverage of areas of introductory algebra needed by the technician to solve Electrical/Electronics circuits. The course includes fundamental of algebra, ratio, proportion, variation, basic geometry and trigonometry, linear systems, determinants and matrices, factoring and quadratic equations, exponents and radicals, exponential, and logarithmic function. Emphasis is placed on practical application to the solution of DC circuits.

**Continued on next page.**
COURSE DESCRIPTIONS

ELECTRICAL/ELECTRONICS (EE) continued

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
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 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 their assessment skills in a hospital and EMS setting. It is needed for an entry level paramedic. 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 lectures 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. II  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 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.

C = Credits  CH = Contact Hours  HL = Hours Lecture  HLB = Hours Lab
F = Fall  Sp = Spring  Sm = Summer
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.  F, Sp
Clinical Experience  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)

EN 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 categories of reading skills, comprehension, vocabulary and speed applying these skills in career and technical areas and resources.

EN 112 3 C/45 CH
Career and Technical Reading I  F, Sp, Sm
Prerequisite: ENG 111
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.

EN 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.

EN 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.

EN 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.

EN 116 3 C/45 CH
English 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.

EN 117 3 C/45 CH
English II  F, Sp, Sm
Prerequisite: ENG 116
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.

EN 118 3 C/45 CH
Technical Communications  F, Sp, Sm
Prerequisite: ENG 117
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.

EN 119 3 C/45 CH
Introductory Journalism  F, Sp, Sm
This is the study of news gathering and the writing of simple news stories and features.

EN 120 3 C/45 CH
English II  F, Sp, Sm
Prerequisite: ENG 118
This course is an analysis of the novels structure, determination and evaluation of theme and technique and the writing of critical essays.

EN 121 3 C/45 CH
American Literature, 1800 to Present  F, Sp, Sm
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.

EN 122 3 C/45 CH
English Bible as Literature  F, Sp, Sm
Prerequisite: ENG 121
This course is an examination of the literary aspects of the Bible and study of a number of its literary forms and devices.

EN 123 3 C/45 CH
Introduction to Shakespeare  F, Sp, Sm
Prerequisite: ENG 122
This course is an introduction to Shakespeare, his plays, comedies, tragedies and histories.

EN 124 3 C/45 CH
Introduction to Folklore and Mythology  F, Sp, Sm
Prerequisite: ENG 123
This course is a study of myths and folklore as the primary literature of different cultures.

EN 125 3 C/45 CH
American Literature, 1800 to Present  F, Sp, Sm
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.

EN 126 3 C/45 CH
Technical Communications  F, Sp, Sm
Prerequisite: ENG 118
This course focuses on the development of effective organization, topic development and devices.

EN 127 3 C/45 CH
Advanced Journalism  F, Sp, Sm
Prerequisite: ENG 119
This course is the continued study in news writing with emphasis on special story types - economic news, movies, drama reviews and editorials.

EN 128 3 C/45 CH
Women in Literature  F, Sp, Sm
Prerequisite: ENG 127
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.

EN 129 3 C/45 CH
Introduction to Drama  F, Sp, Sm
Prerequisite: ENG 128
This course is an introduction to drama, the study of the representation of ideas and attitudes and styles.

EN 130 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 131 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 132 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 133 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 134 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 135 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 136 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 137 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 138 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 139 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 140 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 141 3 C/45 CH
History of Theatre  F, Sp, Sm
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EN 142 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 143 3 C/45 CH
History of Theatre  F, Sp, Sm
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This course is an examination of the development of the theater in major periods and styles.

EN 144 3 C/45 CH
History of Theatre  F, Sp, Sm
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History of Theatre  F, Sp, Sm
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EN 146 3 C/45 CH
History of Theatre  F, Sp, Sm
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EN 147 3 C/45 CH
History of Theatre  F, Sp, Sm
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EN 148 3 C/45 CH
History of Theatre  F, Sp, Sm
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EN 149 3 C/45 CH
History of Theatre  F, Sp, Sm
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EN 150 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 151 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.

EN 152 3 C/45 CH
History of Theatre  F, Sp, Sm
Prerequisite: ENG 129
This course is an examination of the development of the theater in major periods and styles.
ENGLISH (ENG) continued

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 Chestnut, Basako, 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 America - Guyana, Suriname, French Guiana and Belize in Central America. 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 design 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
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
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  Latino Literature I
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.

ENG 292 3 C/45 CH  Latino Literature II
Prerequisite: ENG 119
This course includes a comprehensive 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
Prerequisite: CHM 105
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
Prerequisite: ENG 120
In an ever-changing world, entrepreneurs must adapt and learn to anticipate, shape and explore their environment. This course surveys and analyzes contemporary techniques in managing their workforce. Topics include staffing, rewarding, developing, and maintaining organizations, jobs, and people.

ENT 250 3 C/45 CH  Operations Management for Small Businesses
Prerequisite: ENG 120
Production and Operations Management is important to the overall strategy and competitiveness of a small business owner. The 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
Prerequisite: ENG 119
The primary emphasis of this course is on OSHA and other 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
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
Prerequisite: ENG 120
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 to release to decontamination and termination procedures.

EHS 270 3 C/45 CH  Sampling Procedures
Prerequisite: ENG 120
This course emphasizes 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.
ENVIRONMENTAL, HEALTH, AND SAFETY TECHNOLOGY (EHS) continued

EHS 280 Hazardous Materials Health 3 C/45 CH Effects/Applied Toxicology 3 C/45 CH
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 Industrial Chemical Response (Practicum) 2 C/30 CH
This course includes a 24-Hour hands-on experience regarding the characterization and cleanup of industrial spills. Meets OSHA HAZWOPER requirements.

EHS 294 Hazardous Waste Site Worker 3 C/45 CH
This course includes a 40-Hour hands-on experience regarding the characterization of working in an hazardous material workplace.

FACILITY MAINTENANCE PROGRAM (FM)

FM 101 Basic Facility Maintenance 3 C/45 CH
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 Plumbing & Pipe Fitting 3 C/45 CH
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.

FM 103 Carpentry 3 C/45 CH
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, bucking 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 General Maintenance 3 C/45 CH
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 panses. 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 Grounds Maintenance 3 C/45 CH
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 installing fountains. Also the removal of snow and ice, plowing below snow, 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 Safety and Support Services 3 C/45 CH
This course is a survey of the health and legal consideration affecting the work environment and includes historical backgrounds, safety standards, health standards, resources in hazard recognition, inspection procedures, complaint procedures and relevant legislation, law and judicial decisions. Also reviewed are OSHA and MIOSHA regulations, compliance and enforcement, health and safety committees, and the safe operation of hand and power tools, lock-out tag-out procedures, hazard use and handling of sharp containers and blood borne pathogen safety.

FM 299 Facility Maintenance Co-op 3 C/45 CH
This course provides fieldwork experience.

FIRE PROTECTION TECHNOLOGY (FPT)

FPT 100 Incipient Fire Brigade 2 C/30 CH
Prerequisite: None
This course is designed to provide a student with the basic knowledge necessary to become a member of an Incipient Fire Brigade. Members of a Fire Brigade fight small (incipient) size fights in normal work clothes. Topics include organization and responsibilities, fire behavior, fire hoses, nozzles and appliances, portable fire extinguishers, fire detection and signaling systems, fixed fire extinguishing systems, hazard recognition, incident management, and loss control.

FPT 110 Fire Fighter I 8 C/120 CH
Prerequisite: Program Admission
Corequisites: 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 Fire Fighter I Lab 5 C/75 CH
Prerequisite: Program Admission
Corequisite: FPT 110
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 Fire Fighter II 5 C/75 CH
Prerequisite: MFFTC Fire Fighter I Certification
Corequisite: 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 extraction 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.

Continued on next page.
FIRE PROTECTION TECHNOLOGY (FPT) continued

FPT 125 Fire Fighter II Lab
Prerequisite: MFTTC Fire Fighter I Certification
Corequisites: FPT 120
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 extraction 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 150 Principle of Emergency Services
Prerequisite: None
This course provides an overview to fire protection: career opportunities in fire protection and related fields: philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire detection services: fire departments as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics.

FPT 155 Fire Prevention
Prerequisite: None
This 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.

FPT 160 Fire Behavior and Combustion
Prerequisite: None
This course explores the theories and fundamentals of how and why fires start, spread, and how they are controlled.

FPT 165 Fire Protection Systems
Prerequisite: FPT 155, FPT 160, MAT 113
This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

FPT 170 Strategy and Tactics
Prerequisite: FPT 150
This course provides in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground.

FPT 175 Hazardous Materials Chemistry
Prerequisite: None
This course provides basic fire chemistry relating to the categories of hazardous materials including problems of recognition, reactivity, and health encountered by firefighters.

FPT 180 Occupational Safety and Health for the Fire Service
Prerequisite: None
This course introduces the basic concepts of occupational health and safety as it relates to emergency services organizations. Topics include risk evaluations and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. Upon completion of this course, students should be able to establish and manage a safety program in an emergency service organization.

FPT 185 Fire Protection Hydraulics and Water Supply
Prerequisite: MAT 113
This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems.

FPT 205 Introduction to Fire and Emergency Services Administration
Prerequisite: FPT 150
This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis is placed on fire service leadership from the perspective of the company officer.

FPT 210 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 (MFTTC) Company Officer Prerequisite curriculum. Topics include: Fire Incident Strategic and Tactics. Students meeting all course requirements are eligible to continue on to the MFFTC Company Officer Course.

FPT 215 Building Construction for the Fire Service
Prerequisite: FPT 150
This course provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

FPT 220 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 MFTTC examination for certification.

FPT 225 Principles of Fire and Emergency Services Safety and Survival
Prerequisite: None
This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

FPT 230 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 235 Legal Aspects of the Fire Service
Prerequisite: None
This course introduces the Federal, State, and Local laws that regulate emergency services, national standards influencing emergency services, standard of care, tort, liability, and a review of relevant court cases.

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FIRE PROTECTION TECHNOLOGY (FPT)

FPT 240 Fire Service Management IV
Prerequisite: FPT 230
This course is designed to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes.

FPT 245 Fire Investigation I
Prerequisites: FPT 150, FPT 160, FPT 165
This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes.

FPT 250 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 Fire Inspection Principles and Practice
Prerequisite: FPT 330
This 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 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 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 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 Hazardous Materials in Fire Service Operations
Prerequisite: FPT 120
This course covers material handling and transportation. Topics include: hazardous materials, USDOT regulations, hazardous materials, potential hazards at these incidents, and hazmat prevention techniques.

FOODSERVICE SYSTEMS MANAGEMENT (FSM)

FSM 101 Foodservice Systems Management Orientation
This course is meant to build on FPT 265 Search and Rescue Operations I. 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.

FSM 105 Principles of Foodservice Systems
This course begins with the history of foodservice. An overview of the different segments of the market is presented including current trends in 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.

Continued on next page.
FOODSERVICE SYSTEMS MANAGEMENT (FSM) continued

FSM 115 2 C/30 CH
Food Safety and Sanitation  E, 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.

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 include menu styles, menu service, and other topics.

FSM 140 2 C/30 CH
Principles of Food Preparation  E, 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.

FSM 140L 1 C/60 CH
Principles of Food Preparation Laboratory
Corequisite: FSM 140
Lab for $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  E, 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. 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 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. The 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: FSM 145
Practicum II
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 220, 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.

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FOODSERVICE SYSTEMS MANAGEMENT (FSM) continued

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.

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
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.

FORENSIC PHOTOGRAPHY (VDP)

VDP 110 3 C/45 CH
Introduction to Digital Photography F
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 F
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 210 3 C/45 CH
Studio Photography Sm
Prerequisites: VDP 110 & VDP 115
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 215 3 C/45 CH
Forensic Photography Sp
Prerequisite: VDP 110
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.

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 201 4 C/60 CH
Intermediate French I F, Sp, Sm
This course is an expansion of essential principle of grammatical idiomatic usage through oral and written exercises, emphasis is on French conversation, and continued development on reading French.

FRE 202 4 C/60 CH
Intermediate French II F, Sp, Sm
This course is an expansion of essential principle of grammatical idiomatic usage through oral and written exercises, emphasis is on French conversation, and continued development on reading 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.

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.

GTT 220 4 C/60 CH
GHX Accreditation Exam Preparation
Prerequisites: GTT 201
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 (GHX) using today’s industry standards. This course culminates the completion of the Geothermal REHC Technology Certification by taking the International Ground Source Heat Pump Association’s Accredited Installer examination.

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.

GEOThERMAL SYSTEMS TECHNOLOGY (GTT)

GTT 101 3 C/45 CH
Principles of Thermogeology
This course will cover the basic principles of the Earth’s heat sources and their use as alternative, renewable, and baseline 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 3 C/60 CH
Applications of Geothermal Systems
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 systematically 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.

GTT 201 3 C/45 CH
Geothermal REHC Technology
Prerequisite: GTT 101, GTT 105
This course is designed to provide the students with the knowledge of Geothermal HVAC/R technology. Ground Source Heat Pump trainer and conventional Gas Forced Air equipment will be used to articulate how the stability of the Earth’s heat can heat and cool homes and commercial buildings. Sustainable systems for individuals, communities, and municipalities are surveyed as well as their environmental impact and cost-benefit analysis. Calculating Geothermal Renewable Energy Heating and Cooling (REHC) system efficiency ratings and calculating payback periods will be surveyed. Current incentives, tax credits, rebates, and local and national legislation will be researched.

GTT 202 4 C/60 CH
Renewable Energy Heating and Cooling (REHC)
Prerequisites: GTT 201
This course provides a comprehensive view of the geothermal/ground source heat.

GERONTOLOGY (GER)

GER 110 3 C/45 CH
Processes of Aging
Prerequisites: GER 110
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 115 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 120 3 C/45 CH
Health and Physical Processes of Aging
Prerequisites: GER 110
This course provides general knowledge of current legislative programs, agencies and regulations affecting the elderly.

GER 125 3 C/45 CH
Mental Health and the Aging
F, Sp, Sm
Prerequisites: GER 110
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.

GLOBAL SUPPLY CHAIN MANAGEMENT (LOG)

LOG 101 3 C/45 CH
Principles of Logistics
F, Sp, Sm
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.

Continued on next page.
GLOBAL SUPPLY CHAIN MANAGEMENT (LOG) continued

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.

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 Supply Chain  Sp, Sm
Management  F, Sp
Prerequisites: LOG 101, LOG 103
This course is a study of global logistics with an emphasis on looking at the whole world as one potential market. Additionally, an analysis of the global supply chain and current issues such as import/export regulations will also be reviewed.

HEATING, VENTILATION AND AIR CONDITIONING (HVA)

HVA 101 4 C/75 CH
Basic Refrigeration  F, Sp
Lab fee
Corequisite: HVA 102
This course covers basic principles of refrigeration and air cooling, basic cycles, systems, components and 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 of 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
Power Energy - Air Conditioning I  F, Sp
Lab fee
Prerequisites: HVA 101, HVA 102
Corequisite: HVA 105
This course covers load calculation, basic psychrometrics, system design, air handling, selection of equipment and controls, installation and servicing of residential and commercial systems.

HVA 105 4 C/75 CH
Power Energy - Air Conditioning II  Sp, Sm
Lab fee
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
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  F, 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, Sm
Lab fee
Corequisites: 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 Air Conditioning and Heating  F, Sp
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 air distribution systems.

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HEATING, VENTILATION AND AIR CONDITIONING (HVA) continued

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 Refrigerant Recovery, Recycling and Reclamation I
2 C/30 CH  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.

HVA 113 Refrigeration Code and Regulations
2 C/30 CH  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 Heating Code and Regulations
2 C/30 CH  Lab fee
Prerequisites: HVA 106
This course provides the student with the heating safety code based on the BOC, Basic National Mechanical Code, ANSI Z231.1, National Fuel Gas code-NFPA45 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 Introduction to Boiler Plant Maintenance
3 C/45 CH  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, 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 Steam I
3 C/45 CH  Lab fee
Prerequisites: 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 Steam II
3 C/45 CH  Lab fee
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 Boiler Room Accessories
3 C/45 CH  Lab fee
Prerequisites: 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

HVA 205 Refrigeration Operators Exam Preparation
3 C/45 CH  Lab fee
This course covers fundamentals of refrigeration, compressors and their types, capacity controls, starting, stopping and operation, valves shapes, booster pumps, pumps 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.

HEMODIALYSIS (HMD)

HMD 110 Hemodialysis Terms & Principle
3 C/45 CH
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 audio cassette 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.

HMD 120 Anatomy & Physiology of Kidney and Urinary System
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.

HMD 130 Surgical Principles of Peritoneal and Vascular Access
3 C/45 CH
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.

HMD 140 Hemodialysis Patient Care Management
3 C/45 CH
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.

HMD 150 Hemodialysis Machine Set-up
3 C/45 CH
This course will identify the purpose and characteristics of dialyzers; describe the purpose and chemical composition of dialysate; describe dialysate preparation and the three monitoring functions of the dialysate delivery subsystem and the extracorporeal blood circuit functions and monitoring systems. Students will discuss the purpose of water treatment for dialysis, the advantages and disadvantages of water softeners, carbon tanks, reverse osmosis, deionization, and ultraviolet irradiation in the treatment of water for dialysis. The method for microbiological testing of the water treatment system will be examined in the HMD Lab. The course also will identify the dialyzer reprocessing; history, reasons, and step-by-step procedures.

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HEMODIALYSIS (HMD) continued

HMD 160 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.

HMD 170 3 C/45 CH
Hemodialysis Clinical Practicum
This is a 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 student 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.

HISTORY (HIS)

HIS 150 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. Influences such as immigration, religion, frontier settlement, technology, the family, and education are explored.

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.

HIS 250 3 C/45 CH
History of the United States II
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
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
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
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.

HOMELAND SECURITY (HLS)

HLS 100 3 C/45 CH
Intro to Homeland Security
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 3 C/45 CH
Introduction to Terrorism
Prerequisite: HLS 100
This course is designed to provide a history of terrorism both foreign and domestic. It will explore terrorism, both foreign and domestic. It will explore topics such as new adversaries, motivation, and tactics for global terrorism to include the exploration of domestic acts occurring in the U.S.

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, 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 201 3 C/45 CH
Introduction to Intelligence
Prerequisite: HLS 100
This course is designed to introduce the student to the intelligence community of the U.S. government. The student will learn the importance of information Continued on next page.
COURSE DESCRIPTIONS

HOMELAND SECURITY (HLS) continued

sharing between the intelligence community and local law enforcement agencies. Topics will include: the history of intelligence, sources of intelligence, the various steps in gathering intelligence, and how intelligence applies to Homeland Security.

HLS 202 3 C/45 CH
Homeland Security Emergency Management
Prerequisite: HLS 100
This course is designed for emergency response personnel and will survey emergency and disaster management. Topics include: the history of domestic and international terrorism; natural and technological hazards and risk assessment; and the emergency management disciplines of mitigation, response, recovery, preparedness and planning.

HLS 203 3 C/45 CH
Counterterrorism for First Responders
Prerequisite: HLS 100
This course is designed for the first responders that are first on the scene of terrorism incidents whether they are foreign or domestic. The must provide security to the scene, provide aid to the wounded and literally put out the fire. The first responders will be prepared to handle all types of hazardous materials and effectively deal with chemical and biological events. The course provides step-by-step procedures for recognition and identification techniques for handling terrorist events.

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 indepth 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 eateries. 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
Prerequisite: HLS 100
This course provides an overview of the visual arts and its importance in our lives. The course covers the visual arts in regards to basic elements, such as line, space, color and light. Through a global lens, it also delves into specific art forms, such as painting, sculpture, film and architecture. The course is designed for those desiring to become a better informed and appreciative audience member of the visual arts. Field trips may be required to enhance the student’s learning process and experience.

HUM 102 3 C/45 CH
Intro to the Performing Arts
Prerequisite: HLS 100
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
Prerequisite: HLS 100
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
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 211 3 C/45 CH
Music Appreciation
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 music of today. The course is designed for those desiring to become a better informed and appreciative audience member of music. Field trips may be required to enhance the student’s learning process and experience.

HUM 212 3 C/45 CH
Music History
This is a study of the historical development of music.

HUM 221 3 C/45 CH
Art Appreciation
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.

Continued on next page.
HUMANITIES (HUM) continued

HUM 222 3 C/45 CH
Art History Sp
A chronological survey, the course focuses on the subject, 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 Sp
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. This class includes historical highlights, aesthetic approaches and criticism and fundamentals of production. Students will be expected to view, identify and critique movies in the context of basic filmmaking principles and techniques.

HUM 232 3 C/45 CH
Film History 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)

HUM 105 3 C/45 CH
Group Expression for Self Growth I 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.

HUM 135 3 C/45 CH
Professionalism in Human Services Prerequisite: HUM 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.

HUM 246 3 C/45 CH
Independent Study: Human Services
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 4 C/60 CH
Fundamentals of Computer Aid Drafting Prerequisite: HUM 105
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 4 C/60 CH
Advanced Computer Aided Drafting Prerequisite: CAD 101 Lab fee
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 103 4 C/60 CH
CAD Applications 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 Lab fee
Prerequisite: CAD 210 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 Lab fee
Prerequisite: CAD 210
An introduction to two-dimensional drafting using the Unigraphics modeler. Other topics include UNIX operating system and Visual User Environment (VUE); File Management; Two-dimensional drafting, construction, and editing; view manipulation; layout; and a brief introduction to three-dimensional principles and concepts.

CAD 226 4 C/60 CH
Advanced Unigraphics Solid Modeling 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.
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
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.

LABOR STUDIES (LS)

LS 204 3 C/45 CH
Occupational Safety and Health
F, Sm
This course is a survey of the health and legal considerations affecting the work environment and includes historical backgrounds, safety standards, health standards, resources in hazard recognition, inspection procedures, complaint procedures, and relevant legislation, law and judicial decisions. Also reviewed are OSHA and MIOSHA regulations, compliance and enforcement, joint labor-management efforts and health and safety committees.

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
Intro to Law Enforcement 3 C/45 CH
Prerequisite: CJ 100
This course introduces the student to the field of law enforcement and explores its historical, philosophical and operational development in the United States. It exposes the student to the different perspectives of the police role and familiarizes students with the concept of discretion as it applies to policing and law enforcement. This course also examines the constitutional limits imposed on the police in their use of excessive and/or deadly force.

LEA 210
Highway and Traffic Control 3 C/45 CH
Prerequisites: CJ 100 and LEA 201
This course covers the basic law enforcement practices and responsibilities for the safe and efficient movement of vehicles and pedestrians. It also examines law enforcement’s relationship with city planners, engineers, court personnel and the judiciary in encouraging safe commuting habits and adherence to the law.

LEA 225
Law Enforcement Admin: Seminar I 2 C/30 CH
Prerequisite: CJ 100 AND LEA 201
Co-requisite: LEA 226
This course is an overview of law enforcement administration in both theory and practice. Case studies will be employed to help students understand and resolve the many problems facing law enforcement officers and administrators. Students will be invited to share their life experiences and to offer their own unique perspectives during class.

LEA 226
Law Enforcement Administration: Practicum 4 C/60 CH
F, Sp
Prerequisite: CJ 100 AND LEA 201
Co-requisite: LEA 225
This course provides an internship experience for students in a supervised law enforcement setting. Students will engage in administrative and community policing work and may possibly accompany law enforcement officers on patrol. Students will be required to maintain an activity logbook and/or make written reports on their daily duties and field activities.

LEA 230
Fundamentals of Criminal Investigation 3 C/45 CH
F, Sp
Prerequisite: CJ 100 AND LEA 201
This course teaches the basic principles of criminal investigation. The course will examine, among other things, the following major subjects: surveillance techniques, crime scene investigation, the collection and preservation of evidence, the use of informants, and interview and interrogation techniques.

LEA 231
Criminal Law and Justice I 3 C/45 CH
F, Sp
Prerequisite: LEA 230
This course examines the substantive content of the criminal law and court processes. It explores the historical development of the law and traces the origins of American jurisprudence to the English common law. The course also examines the limitations on government power and the protections afforded the accused in a criminal prosecution.

LEA 232
Criminal Law and Justice II 3 C/45 CH
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: CJ 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.

LIGHT RAIL ENGINEERING TECHNOLOGY (LRT)

LRT 101 3 C/45 CH
Rail Transportation and Railroad Careers
F, Sp
This introductory course covers the history of rail development and operations in North America and an exploration of railroad careers to assist students in choosing a suitable career path. Included in the course

Continued on next page.
long rail safety inspections using radios, providing flag protection, moving equipment, crossing over static equipment, to read and interpret electrical diagrams commonly in the rail industry. The course will include a review and discussion of the following topics: Ladder Diagrams, Contactors, Motor Starters, Motors, Programmable Logic Controller, and other related railroad electrical symbols.

LRT 210 Rail Pneumatics and Hydraulic Controls 3C/45 CH
Prerequisites: LRT 102, EE 101, EE 102
This course introduces the basic components, controls, and functions of railroad pneumatics and hydraulics. The course will include a review and discussion of the following topics: standard symbols, pumps, control valves, control assemblies, actuators, as well as maintenance procedures and control and switching devices. Basic railroad employee responsibilities and procedures for performing brake tests (pre-departure and en route) in accordance with federal and regional regulations are covered.

LRT 220 Railroad HVAC Systems 4C/60 CH
Prerequisites: LRT 210, MCT 203, PHY 235
This course provides an overview of HVAC systems used on railcars. The use of basic hand and specialty tools will be covered as well as the basic laws of heat transfer, thermo-dynamics and heat load. The study of the basic refrigeration cycle and its components will be introduced. In addition, students can qualify to obtain EPA certification on the proper handling of refrigerants.

LRT 230 Railroad Electromechanical Troubleshooting 4C/60 CH
Prerequisites: LRT 202, MCT 203
This course introduces students to the tools, methods and techniques for troubleshooting electromechanical problems in railroad machines, machinery and various types of railcars.

LRT 240 Railroad Signaling and Switching 4C/60 CH
Prerequisite: LRT 102
This course provides a basic understanding of a railroad signal system, including track circuits and all applicable federal laws and guidelines. Included is the basic concept of marshalling (making sure the railcars are arranged in the correct sequence) and efficient, effective switching procedures.

LRT 250 Railroad Maintenance, Troubleshooting and Repair 4C/60 CH
Prerequisites: MCT 203
This course introduces students to the tools, methods and techniques for troubleshooting signal and communication problems in switch machines and railroad communication equipment.

LIBRARY TECHNOLOGY (LBT)

LBT 100 Introduction to Libraries and Service 3 C/45 CH
F, Sp, Sm
This course is designed to give the students a broad overview of the various types of libraries and library services offered to its users. A historical survey of libraries, from its beginnings in pre-history to the dynamic institutions they are today. Students are introduced to the functional and organizational structure; philosophy, and terminology are emphasized. Students will understand the roles that library technicians play as members of library staff. Issues in the library field which includes ethics, censorship, etc will be explored.

LBT 105 Library Technical Services and Acquisitions 3 C/45 CH
F, Sp
Introduces basic tenets of descriptive and subject cataloging, Library of congress and Dewey Decimal classification systems. Provides practical skills necessary to catalog and classify a variety of materials in MARC format, using cataloging tools online. Discuss the various aspects of technical service operations in the context of overall library services.

LBT 200 Evaluating Information Sources 3 C/45 CH
F
This course is designed to introduce students to the world of reference and information service. Core abilities will include the evaluation of print and electronic information sources, basic research methodology, search strategies, and standard bibliographic formats for determining the authority, currency and overall quality of resources.

LBT 210 Library Technology F, Sp
This course is designed to give the students practical skills in basic library technologies. An overview of integrated library management systems and its impact on circulation, patron registration, and cataloging procedures. Covers statistics, inventory and shelving operations, circulation, serials, online public access catalogs, interlibrary loan services, theft detection systems, and bibliographic checking through OCLC. Student will explore advances in recent years: RSS, open source, blogs, networking and podcasts. 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 Introduction to Media Management and Service 3 C/45 CH
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.

Continued on next page.
COURSE DESCRIPTIONS

LIBRARY TECHNOLOGY (LBT) continued

LBT 220 3 C/45 CH
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.

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 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,
crystalization, 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 CNC 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 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
Prerequisite: ENG 110, BUS 225 and LBT 100
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 Sp, Sm
Prerequisite: MAT 100
This course is an introduction to variables in building
mathematical and problem solving skills. Strong
emphasis will be placed on operations with signed
numbers as well as solving first and second degree
equations, operations on polynomials, operations on
rational expressions, word problems, graphing,
solving linear equations and systems of linear
equations, and inequalities. Introductory concepts will
be extended to include absolute value equations,
rational exponents, complex numbers, quadratic
equations, slope of a line, conic sections, functions and
logarithms. Students will use customized software that
includes videos, homework assignments, quizzes and
tests available via internet to extend time on task.

With the guidance of instructors and time tasks in a
math lab, students accelerate through math
competencies on a progressive and individual basis.

MAT 110 3 C/45 CH
Intermediate Algebra 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
expressions, complex numbers, quadratic equations and
inequalities, the slope of a line, conic sections,
functions and logarithms.

MAT 112 4 C/45 CH
Pre-College Mathematics Sp, Sm
Prerequisite: MAT 100 or MAT 105
This course covers solving problems with arithmetic,
building skills in using whole numbers, fractions,
decimals, and introduction to variables in building
mathematical and problem solving skills. Strong
emphasis will be placed on operations with signed
numbers as well as solving first and second degree
equations, operations on polynomials, operations on
rational expressions, word problems, graphing,
solving linear equations and systems of linear
equations, and inequalities. Introductory concepts will
be extended to include absolute value equations,
rational exponents, complex numbers, quadratic
equations, slope of a line, conic sections, functions and
logarithms. Students will use customized software that
includes videos, homework assignments, quizzes and
tests available via internet to extend time on task.

Continued on next page.
MATHEMATICS (MAT) continued

MAT 122 3 C/45 CH
Technical Mathematics II
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
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
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
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
Prerequisite: MAT 171
This course covers the study of integration techniques, applications and integrals, limits and indeterminate forms, infinite sequence and series, improper integrals and an introduction to parametric and polar coordinates. The use of graphing technology or a computer algebra system is required.

MAT 207 2 C/45 CH
Hydraulics and Pneumatics
Prerequisite: MAT 271
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.

MAT 208 3 C/60 CH
Programmable Logics Controller
Prerequisite: MCT 202
Programmable controller hardware, relay ladder diagram and logic programming, timers and counters, arithmetic function, process control and data acquisition, communication, computer numerical control computer controlled machines and programmable controller’s installation and troubleshooting systems will be covered. Allen-Bradley PLC-5 family programmable controllers will be used in the lab.

MAT 212 3 C/60 CH
Advanced Robotics
Prerequisite: MCT 202
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.

MAT 215 3 C/60 CH
Advanced Programmable Logic Controllers
Prerequisite: MCT 208
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.

MCT 202 3 C/60 CH
Introduction to Robotics
Prerequisite: EE 102
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
Electrical Machinery and Controls
Prerequisite: EE 102
This course covers the 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
Prerequisite: MAT 271
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.

MCT 208 3 C/60 CH
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Advanced Robotics
Prerequisite: MCT 202
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MCT 215 3 C/60 CH
Advanced Programmable Logic Controllers
Prerequisite: MCT 208
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 in Criminal Justice
Prerequisite: MEH 100
This course imparts the philosophies, practices, policies, and outcomes of the most generally accepted and scientifically supported models of treatment, recovery, relapse prevention, and continuing care for individuals in recovery transitioning from a justice facility.

Psychopathology & Behavior I
Prerequisite: MEH 100, MEH 110
This course is a study and review of psychopathology with emphasis upon the etiology, symptomatology, treatment and prognosis of mental disorders.

Mental Health 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
Prerequisite: NC 111
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
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
Lab fee
Prerequisite: NC 111
Programming, setup and operations of vertical machining centers. This is a study of 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.

Continued on next page.
### COURSE DESCRIPTIONS

#### NUMERICAL CONTROL (NC) continued

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>NC 231</td>
<td>3</td>
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<tr>
<td>NC Turning Center</td>
<td>E</td>
<td>Sp</td>
<td></td>
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<tr>
<td>Operation and Graphics I</td>
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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.

<table>
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<tr>
<td>NC 234</td>
<td>3</td>
<td>C/45</td>
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<tr>
<td>NC Programming and Machining II</td>
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</table>

Prerequisite: NC 222

This course will allow students to create programs for CNC programs through the use of codes and dialog. This course will allow students to create programs for CNC machining center operation and graphics (MDI/teach). The student will gain more experience by producing parts from these programs. The student will be introduced to the use of Boolean operations and other modifying techniques. Tool paths for solids are then simulated to produce a finished product.

#### NURSING (NUR)

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>NUR 110</td>
<td>6</td>
<td>C/120</td>
<td>30 L/90 CL</td>
</tr>
<tr>
<td>Nursing Foundations</td>
<td>E</td>
<td>Sp</td>
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</tr>
<tr>
<td>Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, Admission to the Nursing Program</td>
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<tr>
<td>Co-requisite: NUR 118</td>
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</table>

This first year course explores historical and contemporary nursing practice and health care delivery systems. Emphasis is on the nursing student as a caregiver and the responsibilities this entails in the clinical setting. The embedded laboratory component has a focus on the acquisition of the nursing skills necessary for progression to clinical sites in subsequent courses. Students have an opportunity to practice skills on a simulation model and peers. This course is organized according to the following paradigms: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. Students are concurrently enrolled in the clinical component of NUR 112 and the hospital setting. This is a prerequisite for progression to clinical sites in subsequent courses.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>NUR 116</td>
<td>6</td>
<td>C/120</td>
<td>30 L/90 CL</td>
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<tr>
<td>Medical Surgical Nursing</td>
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</tr>
<tr>
<td>Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, NUR 110, NUR 112, NUR 118</td>
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<tr>
<td>Co-requisite: NUR 114, DT 130</td>
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</table>

This first year course focuses on the nursing care of the obstetric client, the newborn and the family unit. This course also explores women’s health across the life span. Emphasis is on the nursing student as a caregiver and the responsibilities this entails. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. Students are concurrently enrolled in the clinical component of NUR 114 where skills in the application of the nursing process are further developed in managing the health of women and the childbearing family.

### COURSE DESCRIPTIONS

#### Physical Assessment

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Contact Hours</th>
<th>Lab Hours</th>
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</thead>
<tbody>
<tr>
<td>NUR 118</td>
<td>2</td>
<td>C/30</td>
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</tbody>
</table>

This first year course focuses on nursing knowledge and skills necessary to conduct an adult physical assessment and document assessment findings on a healthy adult. Deviations from normal adult physical assessment and geriatric assessment findings will also be identified. The level of skill to be attained is comparable to the nursing assessment in an acute care setting. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. Emphasis is on the nursing student as a caregiver and the responsibilities this entails. NUR 118 includes an embedded laboratory component. Students continue to further develop skills in the application of the nursing process in managing care of the adult client.

<table>
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<tbody>
<tr>
<td>NUR 119</td>
<td>2</td>
<td>C/30</td>
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<tr>
<td>Pharmacology</td>
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<tr>
<td>Prerequisites: ENG 119, BIO 240, BIO 250, BIO 295, PSY 101, NUR 110, NUR 118</td>
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<td></td>
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<tr>
<td>Co-requisite: NUR 112</td>
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</table>

This course incorporates the mathematical calculation for safe medication administration with a focus on... **Continued on next page.**
NURSING (NUR) continued

utilizing the nursing process approach as medications are examined by drug classification and prototype. Pharmacokinetics and pharmacodynamics, lifespan considerations, client teaching, and herbal therapies are also discussed in each nursing course as the student progresses through the program. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. Emphasis is on the nursing student as a caregiver and the responsibility involved in safe administration of medication. Students continue to further develop skills in the application of the nursing process in managing care of the adult client

NUR 210 Psychiatric Nursing
Prerequisites: ENG 119, BIO 240, BIO 250, BIO 285, PSY 101, DT 130, NUR 110, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119
Co-requisites: NUR 212, SOC 100
This second year course focuses on the dynamics of human behavior during psychiatric illness. Principles and concepts of mental health, medication and non-medication interventions, group interventions and therapeutic environments are explored. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. Emphasis is on the nursing student evolving into the role of professional nurse and the responsibilities this entails. Students are concurrently enrolled in the clinical component of NUR 212 where skills in the application of the nursing process are sharpened in managing care of the adult client.

NUR 214 Pediatric Nursing
Prerequisites: ENG 119, BIO 240, BIO 250, BIO 285, PSY 101, DT 130, NUR 110, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119
Co-requisites: NUR 216, NUR 218
This second year course focuses on the nursing care of the pediatric client and family unit. The concepts of growth and development related to the pediatric client will be examined. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. Emphasis is on the nursing student evolving into the role of professional nurse and the responsibilities this entails. Students are concurrently enrolled in the clinical component of NUR 214 where skills in the application of the nursing process are sharpened in managing care of the pediatric client and family.

NUR 216 Medical Surgical Nursing IV
Prerequisites: ENG 119, BIO 240, BIO 250, BIO 285, PSY 101, DT 130, NUR 110, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, NUR 210, NUR 212, SOC 100
Co-requisites: NUR 214, NUR 218
This second year course focuses on nursing care of clients with neurologic, musculoskeletal, connective tissue, eye and ear disorders and rehabilitation. Emphasis is on the nursing student evolving into the role of the professional nurse. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management. The student will utilize additional skills in prioritizing care in relation to complications of immobility, traction and use of adaptive equipment. Students are concurrently enrolled in the clinical component of NUR 216 where skills in the application of the nursing process are sharpened in managing care of the adult client.

NUR 218 Nursing Issues, Transitions and Leadership
Prerequisites: ENG 119, BIO 240, BIO 250, BIO 285, PSY 101, DT 130, NUR 110, NUR 112, NUR 114, NUR 116, NUR 118, NUR 119, NUR 210, NUR 212, SOC 100
Co-requisites: NUR 214, NUR 216
This second year course focuses on the transition from a student role to the professional nurse with a stress on workplace and emergency issues, time management, organizational skills, understanding the impact of history and nursing theories, and the primary aspects of obtaining employment. Management and leadership issues are highlighted, such as the economics of healthcare delivery, delegation, teambuilding, ethical, and legal concerns facing today’s nurse. Emphasis is on the student evolving into the role of professional nurse with responsibility for prioritizing nursing actions related to the delivery of safe and effective client care in a variety of settings. This course is organized according to the metaparadigm concepts: person/client, health, environment and nursing. In addition, curriculum is organized with the integration of the following concepts: professionalism, communication, leadership, clinical reasoning/critical thinking, caring, quality improvement, diversity and information management.

NURSING ASSISTANT TRAINING (NHS)

NHS 100 10 C/94 CH
Nursing Assistant
This course provides the theory and skills necessary to assist professional health care providers in providing direct patient care. Candidates will receive training to provide care in the classroom, lab and long-term facility settings. The curriculum is modeled according to the State of Michigan guidelines. Nurse aide students taking this course will be expected to adhere to guidelines and standards that will help them to be successful in the workplace setting.

Upon successful completion of the course, students are eligible to take the Michigan Nurse Aide Examination for CNA Certification.

OFFICE INFORMATION SYSTEMS (OIS)

OIS 100 3 C/45 CH
Keyboarding
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 type a variety of data when using a computer. A minimum of three hours of lab per week and a lab fee required.

Continued on next page.
OFFICE INFORMATION SYSTEMS (OIS) continued

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, menus, 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).

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. The student will develop skills to sensitive 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 using the 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.

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 255 3 C/45 CH
Office Administration and Professional Development
Prerequisite: BUS 225
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 130 3 C/45 CH
Law Office Procedures and Management
Prerequisite: Program Admission
This course will provide students with an understanding of the role of the paralegal in the law office. Students will examine the structure of a law office, time and records management, billing methods, technology and computers, administrative procedures, client relations, office operating procedures, and professionalism in the workplace.

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.

Continued on next page.
**PARALEGAL TECHNOLOGY (PLT) continued**

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<thead>
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<td>C/45 CH</td>
</tr>
<tr>
<td>Legal Composition and Research II</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>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.</td>
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<tr>
<td>PLT 160</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>General Practice Survey</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>This course is an introduction to common areas of legal practice undertaken by solo practitioners and small firms. Students will examine civil and criminal litigation, as well as transactional matters.</td>
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<tbody>
<tr>
<td>PLT 170</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Probate Law &amp; Practice</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>This course introduces the student to probate and guardianship law. Students will gain an understanding of the probate process from the paralegal’s perspective.</td>
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<tbody>
<tr>
<td>PLT 180</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Civil Litigation Practice &amp; Procedure</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>This course covers the necessary preparation required to assist attorneys in the pre-trial, trial, and appeal processes. Students will participate in mock court exercises and supervised writing exercises.</td>
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<tbody>
<tr>
<td>PLT 200</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Survey of Property Law</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>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.</td>
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<tbody>
<tr>
<td>PLT 210</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Administrative Law and Procedures</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>The course reviews applicable evidence and procedural requirements for workers’ compensation and social security laws, civil rights and EEOC.</td>
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<tbody>
<tr>
<td>PLT 220</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Criminal Law Practice &amp; Procedures</td>
<td>3</td>
<td>C/45 CH</td>
</tr>
<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>This course covers substantive criminal law, classifications of crimes and principles of criminal liability.</td>
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<tr>
<td>PLT 230</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Family Law</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>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 an understanding of the Michigan family law.</td>
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<tr>
<td>PLT 245</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Debtor Relief &amp; Creditor Rights</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>This course will assist the students in becoming aware of 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 processes of consumer and commercial bankruptcy.</td>
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<tr>
<td>PLT 255</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Credentialing Exam Preparation</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>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.</td>
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<tr>
<td>PLT 260</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Immigration Law</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: Program Admission</td>
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<tr>
<td>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.</td>
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<tbody>
<tr>
<td>PHT 100</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Introduction to Pharmacy Technology</td>
<td>3</td>
<td>C/45 CH</td>
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<tr>
<td>Prerequisite: PHT 105, PHT 110</td>
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<tr>
<td>Corequisite: PHT 130</td>
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<tr>
<td>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.</td>
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<tbody>
<tr>
<td>PHT 110</td>
<td>5</td>
<td>C/100 CH</td>
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<tr>
<td>Institutional &amp; Community Pharmacy Lab fee</td>
<td>5</td>
<td>C/100 CH</td>
</tr>
<tr>
<td>Prerequisite: PHT 100</td>
<td></td>
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<tr>
<td>Corequisite: PHT 105</td>
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<tr>
<td>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.</td>
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<tr>
<td>PHT 120</td>
<td>5</td>
<td>C/100 CH</td>
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<tr>
<td>Drug Distribution Systems Lab fee</td>
<td>5</td>
<td>C/100 CH</td>
</tr>
<tr>
<td>Prerequisite: PHT 105, PHT 110</td>
<td></td>
<td></td>
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<tr>
<td>Corequisite: PHT 130</td>
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<tr>
<td>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.</td>
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<tr>
<td>PHT 130</td>
<td>5</td>
<td>C/80 CH</td>
</tr>
<tr>
<td>Pharmaceutical Calc &amp; Drug Prep Lab fee</td>
<td>5</td>
<td>C/80 CH</td>
</tr>
<tr>
<td>Prerequisite: PHT 105, PHT 110</td>
<td></td>
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<tr>
<td>Corequisite: PHT 120</td>
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<tr>
<td>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</td>
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PHARMACY TECHNOLOGY continued

PHLEBOTOMY (PLB)

PLB 100 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 Phlebotomy Practicum
Prerequisite: ALH 110, ALH 115; Complete PLB 100 and PLB 110 with a "B" or better.

Students will be given the opportunity to practice specimen collection from a variety of sources while in a clinical setting. Students will also receive both classroom and laboratory review in order to sit for the National Certification offered at the end of this course. Students must successfully pass the college designated background check and drug screen to be placed in a clinical setting.

PLB 110 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 Physics for Elementary School Teachers
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 Fundamentals of Physics
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 General Physics I
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 General Physics II
Lecture for
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 Physics for Scientists & Engineers I
Lecture for
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 Physics for Scientists and Engineers II
Lecture for
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 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
Prerequisite: PS 101
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
Prerequisite: PS 101
Introduction to Political Science 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
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
Prerequisite: PS 101
This course is a survey of state and local government, including structure, institutions and processes. The course stresses intergovernmental relations.

PS 275 3 C/45 CH
Public Administration Internship
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 in 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 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
Prerequisite: PRM 101
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.

PSYCHOLOGY (PSY)

PSY 101 3 C/45 CH
Introductory Psychology
This course introduces students to theories, principles, concepts and research in psychology. Topics include biological foundations of behavior and mental processes, learning and cognition, personality and social behavior, mental health and mental disorders. This course satisfies the education requirement for project management professional certification. It is not a PMP test preparation course.

PSY 200 3 C/45 CH
Lifespan Development
Prerequisite: PSY 101
This course is an introduction to lifespan development - the scientific study of human development from conception until death. Students will be introduced to major theories, important research, and basic processes of development with an emphasis on biological, psychological, social, and cultural factors that shape human development across the lifespan.

HUMAN SEXUALITY

PSY 230 3 C/45 CH
Human Sexuality
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.

PROJECT MANAGEMENT (PRM)

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 manager will be explored in relation to day to day management of a project.

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 productivity requirements with project timing.

HUMAN DEVELOPMENT

PSY 220 3 C/45 CH
Child Growth and Development
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/45 CH
Child Growth and Development Practicum
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
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 225.

Continued on next page.
COURSE DESCRIPTIONS

**PSYCHOLOGY (PSY) continued**

**PSY 235**  
Psych of Adjustment Practicum  
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**  
Psychology of Personality  
Prerequisite: PSY 101  
This course covers major personality theories and other personality assessments. It explores various aspects of personality development and change.

**PSY 260**  
Social Psychology  
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**  
Intimate Relationships  
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.

**PSY 285**  
Transpersonal Psychology  
Prerequisite: 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.

**RECREATIONAL LEADERSHIP (RL)**

**RL 110**  
Recreational Leadership  
Prerequisite: PSY 101  
This course covers the theories, principles and practice of planning, organizing and conducting effective recreational programs for various groups, with emphasis on group involvement.

**RENEWABLE ENERGY TECHNOLOGY (RET)**

**RET 100**  
Reneable Energy/Alternative Energy Principles  
Prerequisite: RET 100  
This course covers the fundamentals 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**  
Conventional Energy Sources & Application  
Prerequisite: RET 100  
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**  
Energy and Electricity  
Prerequisite: MAT 121  
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**  
Wind Power  
Prerequisite: RET 100  
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**  
Solar Power  
Prerequisite: RET 100  
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**  
Geothermal and Hydropower  
Prerequisite: RET 100  
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.

**SOCIAL WORK (SW)**

**SW 101**  
Introduction to FLD Practice of SW/Practicum  
Prerequisite: SW 101  
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**  
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 bi-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 104**  
Introduction to Child Welfare  
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.

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Continued on next page.
SOCIAL WORK (SW) continued

SW 101
4 C/60 CH
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

SOC 100
3 C/45 CH
Introduction to Sociology
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
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
Prerequisite: SW 105
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.

SOC 120
3 C/45 CH
Death and Dying
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
Prerequisite: SW 105
In this course students will examine 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
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
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.

Interpersonal Communication
3 C/45 CH
In this course there will be the study of the application of the basic skills necessary for interpersonal communication with emphasis on group discussion.

Fundamentals of Speech
3 C/45 CH
In this course there will be the study and application of basic principles underlying effective oral communication with emphasis on public speaking.

Interpersonal Communication
3 C/45 CH
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 101
3 C/45 CH
Prerequisite: SPH 101
This course covers grammatical constructions, vocabulary, basic idioms, basic phonetics and oral drill.

SPH 102
4 C/60 CH
Elementary Spanish II
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
Prerequisite: SPA 102
This course covers a review of essential grammatical principles and further development of reading skills and idiomatic usage.

SPA 202
4 C/60 CH
Intermediate Spanish II
Prerequisite: SPA 201
Reading on more advanced levels. Continued emphasis on writing and spoken Spanish.

Intermediate Spanish I
3 C/45 CH
In this course there will be the study of the application of the basic skills necessary for interpersonal communication with emphasis on group discussion.

Intermediate Spanish II
3 C/45 CH
In this course there will be the study and application of basic principles underlying effective oral communication with emphasis on public speaking.

Improving the Speaking Voice
Prerequisite: SPA 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.

Continued on next page.
SPEECH (SPH) continued

SPH 131  3 C/45 CH
Introduction to Radio, TV & Mass Communication
This course is the study of growth and development of radio, television and other forms of mass communication.

SPH 201  3 C/45 CH
Advanced Public Speaking
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.

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.

SFA 235  8 C/560 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 assignment 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 245  8 C/360 CH
Clinical Preceptorship II – Clinical
Prerequisites: BIO 252, SFA 200, SFA 210, SFA 220, SFA 230, SFA 253
This course is a clinical practice, part II, of basic surgical skills for surgical first assistant students. A student enrolled in the course is assignment 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.

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 perioperative 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 Surrgical Technology 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.

SUN 110  3 C/45 CH
Surgical Technology Principles – Lecture
Prerequisites: Admission to the Surgical Technology Program, ENG 119, ENG 120, BIO 140, BIO 250, BIO 285, 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.

SUN 120  4 C/60 CH
Surgical Specialties & Techniques I – Lecture
Prerequisites: Admission to the Surgical Technology Program
This course is designed to focus on the perioperative care of the surgical patients during endoscopic, general, obstetric and gynecologic, genitourinary, and other surgical specialties.

Continued on next page.
SURGICAL TECHNOLOGY (SUR) continued

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 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 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, gynecologic, 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 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 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.

SUR 155 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 scrub 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 Surgical Seminar and Certification Preparatory – Lecture
Prerequisites: ENG 119, ENG 120, BIO 240, BIO 250, 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 practical LCC-ST CST Self-Assessment Exam during the fourth week of class.
SUSTAINABLE ENVIRONMENTAL DESIGN (SED) continued

SED 160 Sustainable Community Principles 3 C/45 CH F
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 LEED Certification Exam Preparation 3 C/45 CH Sp
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 Sustainable Environmental Design Capstone 6 C / 120 CH Sp
Prerequisites: All courses in certificate
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.

SUSTAINABLE TECHNOLOGY (ST)

ST 101 Lab Fee
Sales Skills for Sustainable Products and Services 3C/45 CH F, Sp
Prerequisite: Any SED, RET, GTT, WET or AUT 150-155
Co-requisite: ST 102
This course in sustainable sales practices will prepare students for the wide array of jobs in technical sales of sustainable products and services. The course will also cover the technical presentation principles necessary for technicians, managers and business owners to communicate well in the language of sustainability. Students apply principles learned to real world sustainability issues and will create technical presentation solutions for businesses, non-profits, governmental agencies and neighborhoods.

ST 102 Applications of Sustainable Technologies 4C/60 CH F, Sp
Co-requisite: ST 101
This course is designed for persons who are interested in researching and/or designing and implementing a specific project in sustainable business, sustainable energy, or the social/economic implications of following a set of sustainability related principles in business. Examples of projects may include: Conducting technical and economic analysis of a product or service, creating a business plan based on sustainable principles; conducting an energy analysis or creation of a management plan for a sustainable energy project at a specific project location.

TEACHER EDUCATION (ED)

ED 110 Introduction to Education I 4 C/60 CH
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. Elementary school field experiences will provide opportunities to develop, demonstrate knowledge and professional dispositions.

ED 111 Introduction to Education II 4 C/60 CH
Prerequisite: ED 110
This course is a continuation of ED 110. The major focus is on school curricula and instruction (teaching methods). Student participate in four school-based assignments (field experiences) based on integral parts of the course. Opportunities are also provided for students to gain understandings of the State of Michigan approved Entry-Level Standards for Michigan Teachers (ELSMT), Michigan Curriculum Framework (MCF), and Grade Level Content Expectations (GLCE).

TELECOMMUNICATIONS (TCM)

TCM 200 Fiber Optics Communications 3 C/60 CH F
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 201 Communications II 3 C/60 CH Sp
Lab fee
Prerequisite: TCM 200, 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 superhetodenye receiver, with emphasis on amplifier coupling, AM and FM detectors and similarities and differences between the AM and FM systems.

TCM 206 Basic Switching and Signaling Techniques 4 C/75 CH F
Lab fee
Prerequisite: 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 Communications II 3 C/60 CH 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
This course covers the study of common small animal diseases.

VTP 106 2 C/60 CH
Small Animal Technology I: Lab
Prerequisites: VTP 103, VTP 104
Corequisite: VTP 105
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 107 3 C/45 CH
Small Animal Disease
Prerequisites: VTP 103, VTP 104
Corequisite: VTP 105
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.

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
Corequisite: VTP 210
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
This course is designed as a first course for computer animation. The student will learn fundamental and beginner strategies, and future trends in the industry. The student will learn how games are produced, tested and released. The course will cover topics such as materials, shaders, light and surfaces.

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 221 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 232 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/152 CH
Veterinary Tech Practicum II
Prerequisite: VTP 123
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.

VXT 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.

VGD 269 4 C/60 CH
Introduction to 3D Graphic and Animation
Prerequisites: CIST 110, 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.

VGD 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 us walking, running or manipulating other meshes. Then they will produce a final short 3D digital character animation of their own design.

VGD 271 4 C/60 CH
Introduction to 3D Design
Prerequisites: CIS 110, VGD 270
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.
VIDEO GAME DESIGN & ANIMATION (VGD) continued

more complex materials, the use of image maps and procedural maps, mapping and unwrapping, image editing and rendering.

VGD 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 5C/75 CH Arc/Oxygen – Acetylene Welding F This introductory course in arc welding covers theory and practice, and proper procedures for various welding positions. Topics include AC and DC welding, electrode identification, classification and proper applications to typical operations. This course is also designed for students who need knowledge of oxy-acetylene welding and a degree of skill required by the industry. Also, an introduction into CNC plasma cutting (programming), silver soldering, plastic and spot welding is presented.

WLT 102 5C/75 CH Arc Welding Sum, F Prerequisite: WLT 101 Instruction is provided in arc welding using both AC and DC arc welding equipment. Emphasis is on out-of-position welded joints in mild steel, testing procedures, and beveling and fabricating various welded joints. Related theory, codes and standards are included.

WLT 103 5C/75 CH Gas Tungsten Arc Welding (GTAW) F Prerequisite: WLT 101 This course provides instruction on Gas Tungsten Arc Welding (GTAW). Students will be able to identify high quality welds in ferrous and non-ferrous metals and apply them to the five basic welding joints.

WLT 104 5C/75 CH Tungsten Inert Gas Welding (TIG) Sp Prerequisite: WLT 101, WLT 103 This course is designed for advanced gas tungsten arc welding (GTAW). This process of metal fusion is capable of producing high-quality welds in cold rolled, stainless and aluminum. Emphasis will be on out-of-position welding, where students will be able to perform out-of-position welds using ferrous and non-ferrous metals.

WLT 105 5C/75 CH MIG/Flux-Core/Plasma Welding Sp Prerequisite: WLT 101 This course involves MIG welding/flux-core welding with plasma torch cutting and manual programming. Technical theory directly related to MIG welding, including the composition and properties of metals is included; MIG and Flux-core welding for production or fabrication intent are also covered.

WLT 106 3C/45 CH Welding Fabrication F Prerequisite: WLT 101, WLT 103, WLT 104, WLT 105 In this course, emphasis will be on the development of fabrication techniques, including design, mock-ups, material selection, layout, grid, material preparation and use of fixtures. Welding skills developed in WLT101, WLT103, WLT104 and WLT105 will be applied. There will be an opportunity for students to further investigate other industrial welding processes.

WLT 107 3C/45 CH Welding Fabrication II Sp Prerequisite: WLT 106 Building on the techniques and processes learned in WLT 106, this class offers additional instruction on fabrication and the opportunity for advanced fabrication techniques to be explored.

WLT 108 3C/45 CH Introduction to Metal Sculpture F, SP Prerequisite: WLT 101 This course is designed for the artistic development through metal sculpture. Students will learn basic safety, set-up and operation of Oxy-Acetylene cutting, MIG welding, TIG welding as well as Plasma cutting and fabrication equipment. Artistic development will be encouraged through fabrication techniques, critiques and lectures.

WLT 109 3C/45 CH Advanced Metal Sculpture F, SP Co-requisite: WLT 110 This course is designed as a capstone class for the Artistic Welding program. Emphasis will be on the development of metal sculpture through different welding and fabrication techniques. Students will develop a body of work that is cohesive in concept, material and/or subject. An Artist statement and presentation of work during critiques will help the student become confident and prepared to display or sell work.

WLT 110 3C/45 CH Troubleshooting and Repair Co-requisite: WLT 101, WLT 103, WLT 104, WLT 105 This course covers basic mechanical troubleshooting and repair of welding equipment. Included in the course is a business start-up plan covering tools, materials and equipment needed for a successful welding business.

WLT 111 3C/45 CH Specialized Welding Process F Prerequisite: WLT 101 This introductory course in various weld processes covers theory and practice, as well as proper procedures for various welding processes. Topics include sweat soldering, silver soldering, brazing, plastic, PVC and spot welding.

WLT 112 3C/45 CH Quality Testing – Welding Sp Prerequisite: WLT 101, WLT 102, WLT 103, WLT 104, WLT 105 Welding quality and inspection procedures form the basis of this course. Students are exposed to equipment used for weld quality testing and procedures for determining a proper weld.

WLT 208 5C/75 CH Pipe Welding Sp Lab fee Prerequisite: WLT 101, WLT 102, WLT 103, WLT 104, WLT 105 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 209 5C/75 CH Advanced Pipe Welding Sp Prerequisite: WLT 208 This course is an advanced pipe welding class with topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include Multi-pass/hot-pass/cover-pass and out-of-position welding to finish weld coupons from WLT208. Samples will be taken for face and root bending with dependable safety practices understood.

WLT 210 5C/75 CH Welding Certification Sp Lab fee Prerequisite: WLT 101, WLT 102, WLT 103, WLT 104, WLT 105 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.
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<tr>
<th>COURSE DESCRIPTIONS</th>
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<tr>
<td><strong>WATER AND ENVIRONMENTAL TECHNOLOGY (WET)</strong></td>
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<th>WET 101</th>
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<td><strong>Water Treatment Technologies</strong></td>
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<td>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.</td>
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<th>WET 102</th>
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<td><strong>Waste Water Treatment Technologies</strong></td>
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<td>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.</td>
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<th>WET 210</th>
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<tr>
<td><strong>Advanced Waste Water Treatment Technologies</strong></td>
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<tr>
<td>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.</td>
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<th>WET 212</th>
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<tr>
<td><strong>Advance Water Treatment</strong></td>
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<tr>
<td>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.</td>
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<th>WET 215</th>
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<td>Water Quality Analysis and WET Instrumentation</td>
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<td>Investigates conventional water and wastewater laboratory test procedures, with particular emphasis on those analytical techniques that require an understanding and practical use of laboratory instrumentation. Water Quality Lab tests include BOD, TSS, temperature, DO, pH, conductivity, TDS, total and volatile solids, alkalinity, TRC, and others common to the daily operation of both drinking water and wastewater plants; includes discussions of basic stream ecology and applied environmental science principles. Instrumentation Lab includes the use of pH, millivolt and specific ion meters and probes and an introduction to Spectrophotometry, atomic absorption (AA), and gas chromatography/mass spectrometry (GC/MS). Includes field tours of municipal water, wastewater treatment facility labs and related field study discussions.</td>
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<td>Water Quality Analysis &amp; Microbiology</td>
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<td>Investigates more advanced water quality analytical techniques and the microbiology of water, including microscopic examination and identification of microorganisms commonly found in water supplies, water and wastewater treatment processes and polluted bodies of water. Water Quality Analysis lab work involves more advanced analytical procedures to determine nutrients, heavy metals and toxic materials. Focuses on lab health and safety, proper lab technique, representative sampling procedures, record keeping, data preparation and handling and report writing. Continues field studies and analysis using Atomic Absorption and/or Gas Chromatography/Mass Spectrometer instruments. Includes lab work involving organisms commonly found in water and wastewater samples with specific bacteriological analytical techniques.</td>
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C = Credits  
CH = Contact Hours  
HL = Hours Lecture  
HLB = Hours Lab  
F = Fall  
Sp = Spring  
Sm = Summer
FULL-TIME FACULTY

Arnett, Amy Lynn, BSN, MSN, CPNP, Nursing
Bagchi, Bhawatosh, B.S., M.S., Ph.d, Physics
Bassett, Josh, B.A., M.A., English
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, Deorhia, B.S., M.S., Dental Hygiene
Chennault, Stephen D., B.A., M.A., D.A., English
Ciampa, Gary, B.S., J.D., Business Studies
Cintron, Esperanza, B.A., M.A., D.A., English
Conklin, Laura, MSN, MSA, RN, CNE, ONC, CNS, LNC, FCCWS, Dip, AAWM, Nursing
Cook, Gwendolyn, BSN, MS, Ph.D., RN, Nursing
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Donaldson, Clinton, B.S., M.A., Ed.D., Criminal Justice
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Franco, J. Thomas, B.A., BBA, MBA, J.D., LLM, Business Studies
Gafford, Andrea, R.N., BSN, MSN, Nursing
Glotfelty, Gerald, AGS, Paramedic I/C, Emergency Medical Technology
Golida, Damus, AAS, Surgical Technology
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FULL-TIME FACULTY
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PART-TIME FACULTY
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Abraham, Laurence, MBA
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Atlas, Courtney, RD
Atard, Tracey, B.A.
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<td>Firmnschild, Martha</td>
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<td>Foster, Gregory</td>
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<td>Fox, Janice</td>
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<td>Fradi, Reda</td>
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<td>Freed, Sharon</td>
<td>E., M.A.</td>
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<td>Freeman, Doris</td>
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<td>Friend, Damon</td>
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<td>Friley III, Grant Alexander</td>
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<td>Fuciarelli, Larry</td>
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<td>Gadson, Jacqueline</td>
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<td>Gaines, Thomas</td>
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<td>Galvan, Donna</td>
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<td>Gamber-Smith, Amber</td>
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<td>Gardenhire, Andre</td>
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<td>Gardner, Michael</td>
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<td>Gardner-Foster, Evelyn</td>
<td>B.A.</td>
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</tbody>
</table>
PART-TIME FACULTY

Lindell, Richard, M.A.
Lipscomb, Willie, M.A.
Little, Patricia, M.A.
Liu, Xiangdong, Ph.D.
Livingston, Burt, M.A.
Livesey, Michael, B.A.
Logan, Kim, Ph.D.
Long, A’Kena, M.A.
Louria, Charli-Ivy Fredricka
Lucas, Joann, M.D.
Lumpkin, L., M.A.
Lundy, Michael, M.A.
Luo, Ronghua, M.A.
Lupercio, Alfred, MSW
Lynum, Carmen, M.A.
MacDonald, Martine, M.A.
Manigua, Katrina, MSW
Manciel, Carol, Ph.D.
Macki, Zinab, M.A.
Machenee, Melissa, M.A.
Machenee, Melissa, M.A.
MacDonald, Martine, M.A.
Lynum, Carmen, M.A.
Lupercio, Alfred, MSW
Lynum, Carmen, M.A.
MacDonald, Martine, M.A.
Manigua, Katrina, MSW
Manciel, Carol, Ph.D.
Macki, Zinab, M.A.
Machenee, Melissa, M.A.
Machenee, Melissa, M.A.
MacDonald, Martine, M.A.

PART-TIME FACULTY

May, Angela, Ph.D.
Mayberry, Marie Victoria, M.A.
Mayernik, Heather, MAT
Mccallister, John, M.A.
McConico, William, JD
McCray, Larry, B.A.
McDaniel, Felecia, M.A.
McGee, Marilyn, M.A.
McGraw, David, Ph.D.
McGuire-Lloyd, Rachel, M.A.
McHugh, Stephen, M.A.
McKissic, Darin, M.A.
McLeskey, Kimberly, Ph.D.
McMahon, George, Ph.D.
McMonagle, Colin, M.A.
McNally, Ria, M.A.
McNeary, Daphne, M.A.
Meadows, Lee, Ph.D.
Melikan, Christopher, M.A.
Merchant, Cheryl, M.A.
Merrivether, Valerie, M.Ed
Metcalf, Amy Lyn, M.Ed
Mickens, McArthur, M.A.
Miller, April, M.A.
Miller, Cynthia, Ph.D.
Miller, Deborah, M.A.
Miller, Theresa, B.A.
Milton, Joyce, M.A.
Milson-Ramsay, Sandra, M.A.
Mitchell, Keitha Toni, M.A.
Mitchell, Richard, M.A.
Moberly, Cecelia, M.A.
Montilus, Guerin, Ph.D.
Mooney, Daniel, ma
Moore, Genna, M.A.
Morgan, Rashida, M.A.
Morris, Renee, Ph.D.
Morrison, Crystal, Ph.D.
Morrow, Kathy, Ph.D.
Mosby-Lewis, Denise, Ph.D.
Moseley, Lakina, MAT
Moseley, Lynne M, DDS
Moses, Belinda, Ph.D.
Mossier, Gale Alan
Mosley, Nathalie, M.A.
Mucaria, Joseph, M.A.
Muhammad, Lawrence
Muhisin, Nadir, M.D.
Mukkamala, Pradeep, AS
Murphy, Jeanette, MAT
Muswze, Adwoa, M.A.
Mwila, Appollinaris, M.A.
Myers, Macell L., M.A.
Myers, Tiana, M.A.
Myles, Leah Ann, M.Ed
N’Namdi, Kemha, MBA
Needham, Charles, Ph.D.
Nettles-Collins, Darmella, M.A.
Newell, Scott Hassan, B.S.
Newman, Brian, B.A.
Nicholls, William, M.A.
Njoku, Emmanuel, M.A.
Norwood, Mimi, M.A.
Nwankwo, Oliver, M.A.
Obi, Lawrence, Ph.D.
O’Hagan, David, Ph.D.
Okafor, Joseph, Ph.D.
Olafioye, Selaywa, Ph.D.
Olden, Ruby, M.A.
Olobo, Olubusayo, B.A.
O’Mara, Erin W., M.A.
Orozco, Henry, M.S.
Oyeyegbada, Christiana, Ph.D.
Opalski, Bob, M.S.
O’Reilly, Daniel, JD
Orlando, Russell, M.A.
Otte, Gary L., M.A.
Palajac, Stephen James, D.P.M
Palermo, James, M.A.
Parent, Phillip, B.A.
Parizon, Michael, M.A.
Parker, Brandon, M.A.
Parker, Meredith
Parkman, William, M.A.
Patterson, Kelly, Ph.D.
Paul, Rhonda, Ph.D.
Peart, Joslyn, M.A.
Pearlman, Alicia, MBA
Peek, Eunice, M.A.
Peete, Theresa, M.A.
Pehote, Michael, M.A.
Perez, Maria, M.Ed
Perkins, David, Ph.D.
Perry, Bruce, M.A.
Petersen, Eujay, M.A.
Petites, Erica, Ph.D.
Petits, Eugene, Ph.D.
Petitway, Quill, Ph.D.
Petway, Gail, M.A.
Pichan, Cameron Charles, B.A.
Pitts, Cornelius, JD
Plungis, Cayce, B.A.
Pohlod, Donald, M.A.
Pointhester, Yolanda, M.S.
Pope, India, M.A.
Porter, Beverly, B.S.
Powell, Cary, MBA
Powell, Helen, Ph.D.
Powell, Marva, Ph.D.
Premo, Carol, M.A.
Preston, Danny, B.A.
Price, Jerome, MBA
Price, Lawrence, M.Ed
Proefrock, Philip, M.A.
Pryor, Sheryl, M.A.
Pullumbi, Evrin, M.A.
Quennum, Jean-Claude, Ph.D.
Quigley, William, M.A.
Raeck, William, Ph.D.
Rahbarnoohi, Hamid, M.S.
Raines III, Frank, M.A.
Raman, Jyothi, Ph.D.
Ramey, Ronnie Aaron, M.S.
Ramsey, Mary, M.A.
Rapach, William, M.A.
Rashid, Harunur, Ph.D.
Ratliff, Carl, JD
Reed, Carolyn, M.A.
Reed, Lisa, M.A.
Reese, Margaret, M.A.
Retan, Sandra
Reynolds, Wetonia, MSW
Rice, William, MSW
Ri’chard, Michael, M.A.
Richardson, Earl, M.A.
Riley, June, M.A.
Rivera, Jose, M.A.
Roberts, Bruce Eugene, M.A.
Robinson, Deborah, M.A.
Robinson, Earl, M.A.
Robinson, Edwin, D.Chiro., M.A.
Robinson, Johnny, Ph.D.
Rodriguez-Lopez, Maria, M.A.
Rogers, Jerry, B.A.
Rogers, Phyllis, M.A.
Roldan, Arthur, M.A.
Rose, Lisa, M.A.
Rosen, Michael, M.A.
Ross, Phyllis, M.A.
Ross, Sonya, M.A.
Rouleau, Francine, M.A.
Rowley, Cathy, M.A.
Rudolph, Erika, M.A.
Ruetz, Carl, B.A.
Ruetz, Nancy, M.A.
Ruffin, Ronald, Ph.D.
Russell, Joyce A., MSN
Rutherford, Betty, Ph.D.
Rutkowski, Cynthia, M.A.
Saan, Dib, Ed.D
Safronoff, John, Ph.D.
Salehi, Mohammad, Ph.D.
Salinas, Donna, M.A.
Samaddar, Sunonda, M.A.
Sanborn, Judy, M.A.
Sanderfield, Tamara, M.A.
Sanders, William, M.A.
Santiz, Jose, M.A.
Saulter, Barbara, M.A.
Scalfi, Glen, B.A.
### PROGRAM DEGREE NAMES

1. Accounting AAS
2. Associate of Arts AA
3. Associate of General Studies AGS
4. Associate of Science AS
5. Automotive Service Technology (NATEF) Certified AAS
6. Aviation Mechanics: Airframe AAS
7. Aviation Mechanics: Powerplant AAS
8. Bio-Medical Equipment Repair Technology AAS
9. Business Administration AA
10. Business Administration AAS
11. Computer Information Systems AAS
12. Criminal Justice: Corrections AAS
13. Criminal Justice: Law Enforcement Administration AAS
14. Dental Hygiene AS
15. Digital Media Production AAS
16. Early Childhood Education AAS
17. Electrical Electronics Engineering Technology AAS
18. EEE: Computer Technology AAS
19. EEE: Industrial Electronics & Control Technology AAS
20. EEE: Telecommunications Technology AAS
21. Emergency Medical Technology AAS
22. Emergency Room Multi-Skill Healthcare Technology AAS
23. Facility Maintenance AAS
24. Fire Protection Technology: Fire Administration AAS
25. Fire Protection Technology: Fire Suppression AAS
26. Foodservice Systems Management AAS
27. Heating, Ventilation, Air Conditioning (HVAC) AAS
28. Industrial Computer Graphics Technology AAS
29. Light Rail Engineering Technology: Electromechanical AAS
30. Light Rail Engineering Technology: Signaling and Communication AAS
31. Manufacturing Technology AAS
32. Numerical Control Technology AAS
33. Nursing AS
34. Office Information Systems: E-Business AAS
35. Office Information Systems: Office Specialist AAS
36. Paralegal Technology AAS
37. Pharmacy Technology AAS
38. Pre-Engineering AS
39. Pre-Mortuary Science AAS
40. Pre-Physician Assistant AAS
41. Pre-Social Work AA
42. Surgical Technology AAS
43. Teacher Education: Elementary Education AA
44. Veterinary Technology AAS
45. Welding Technology AAS
The short-term 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 short-term certificate, students must have a minimum grade point average of 2.0 in the short-term certificate upon completion.

- Short-Term Certificate: Minimum 10 credits, maximum 29 credits*

College Certificate: 34 credit hours

1. Automotive Technology: Automotive Transmission & Transaxle Exam 19 credit hours
2. Automotive Technology: Engine Repair Exam 19 credit hours
3. Automotive Technology: Electrical/Electronics Systems Exam 12 credit hours
4. Automotive Technology: Engine Performance Exam 24 credit hours
5. Automotive Technology: Heating & Air Condition Exam 17 credit hours
6. Automotive Technology: Manual Drive Train & Axle Exam 17 credit hours
7. Automotive Technology: Suspension and Steering Exam 17 credit hours
8. Dental: X-Ray Certification 3 credit hours
9. Dental: Local Anesthesia Certification 16 credit hours
10. Foodservice Management: Food Safety and Sanitation 2 credit hours
11. Foodservice Management: Food Preparation 2 credit hours
12. Foodservice Management: Level 1 Foodservice Manager 5 credit hours
13. Foodservice Management: Food and Beverage Control 6 credit hours
14. Foodservice Management: Purchasing 6 credit hours
15. Information Systems: CISCO CCNA Exam 14 credit hours
16. Information Systems: CompTIA A+ Exam 1 Preparation 4 credit hours
17. Information Systems: CompTIA A+ Exam 2 Preparation 10 credit hours
18. Information Systems: Microsoft Certified Technology Specialist (MCTS) Exam Preparations 20 credit hours
19. Information Systems: Microsoft Certified Technology Specialist (MCTS) Exam Preparations 20 credit hours
20. Information Systems: Microsoft Office Specialist Exam 15 credit hours
21. Nursing Assistant Training 10 credit hours
22. Surgical Technology: Central Service Technician 10 credit hours
23. Sustainable Technology Specialist: Alternative Fuels 10 credit hours
24. Sustainable Technology Specialist: Geothermal Energy 13-14 credit hours
25. Sustainable Technology Specialist: Renewable Energy 13-14 credit hours
26. Sustainable Technology Specialist: Sustainable Buildings and Sites 10 credit hours
27. Sustainable Technology Specialist: Water Environmental Technology 10 credit hours
28. Sustainable Technology Specialist: Water Environmental Technology 10 credit hours
COMPLIANCE STATEMENTS

EQUAL OPPORTUNITY/ NONDISCRIMINATION POLICY
In compliance with relevant federal and state laws, including Title VI 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 Age Discrimination in Employment Act of 1967, the Vietnam-Vera Veterans Readjustment Act of 1974, the Americans for Disabilities Act of 1990, the Elliot-Larsen Civil Rights Act, and the Persons with Disabilities Act, it is the policy of Wayne County Community College District 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.

Questions or concerns regarding the above should be directed to the Equal Employment/Nondiscrimination Coordinator at:

Director of Human Resources
801 W. Fort Street
Detroit, MI 48226
Telephone: (313) 496-2765

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.

Drugs or alcohol shall be prohibited in the workplace.

Any employee or student who becomes aware of any behavior they have witnessed which they regard as sexual harassment or discrimination in an environment free from unlawful sexual pressure 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, orally, and 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 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)

GRIEVANCE PROCEDURE:
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 1977, the student may bring a forward a complaint, which shall be referred to 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 full grievance procedure is provided in the Student Handbook, which available online at www.wccd.edu, or at the appropriate orientation.

Drugs or alcohol shall be prohibited in the workplace.

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 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 discuss the appeal, and provide a recommendation 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.

**CLERY ACT**

In compliance with the Student Right-to-Know and Campus Security Act, effective 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.

**THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT**

The Family Educational Rights and Privacy Act of 1974, FERPA, is a federal law that states (a) that a written institutional policy must be established and (b) that a statement of adopted procedures covering the privacy rights of students be made available. The law provides that the institution will maintain the confidentiality of student educational/financial records. WCCCD accords all the rights under the law to its students who are declared independent. No one outside the institution shall have access to, nor will the institution disclose, any information from the student’s educational/financial records without the written consent of the student except to personnel within the institution, to officials of other institutions in which the student seeks to enroll, to persons or organizations providing the student with financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, and to persons in an emergency in order to protect the health or safety of students or other persons. All these exceptions are permitted under the Act.

Within the WCCCD community, only those members, individually or collectively, acting in the student's educational interest are allowed access to student educational records. These members include personnel in the Offices of Admissions and Records, Student Services, and academic personnel within the limitations of their need to know. At its discretion, the institution may provide Directory Information in accordance with the provisions of the Act to include: student name, address, telephone number, email address, date and place of birth, major field of study, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended by the student, participation in officially recognized activities and sports, and weight and height of members of athletic teams. Students may withhold Directory Information by notifying the Vice Chancellor of Student Services in writing within two weeks after the first day of class for the semester. Requests for nondisclosure will be honored by the institution for only one academic year. Therefore, authorization to withhold Directory Information must be filed annually with the Vice Chancellor of Student Services. Forms utilized to make this request are available in the Office of Admissions and Records at all campus locations. For additional information regarding the Family Education Rights and Privacy Act please visit our website at www.wcccd.edu and reference the Student Handbook.

**SOCIAL SECURITY NUMBER PRIVACY ACT**

The State of Michigan has recently enacted the Social Security Number Privacy Act that requires all public and private businesses and institutions to enact a policy regarding the protection and disclosure of social security numbers. In compliance with this law and in furtherance of Wayne County Community College District’s commitment to protect the privacy of its students, a Social Security Number Protection Policy has been adopted by the District.

In accordance with this policy, all students should be aware that their social security number will not be publicly displayed with more than four (4) sequential digits, or used as a primary account number by the District. Furthermore, students will not be required to supply their social security number to gain access to any computer system, internet websites or networks administered by the District.

Additionally, in order to avoid inadvertent disclosure, no document will be mailed or electronically transmitted by the District that contains more than four (4) sequential digits of a student’s social security number unless required by state or federal law, a court order or under the other conditions expressly stated in the District’s Policy. Also as part of its Social Security Number Protection Policy, the District has adopted disposal procedures that require all documents that contain a student’s social security number be either eradicated or destroyed. If students have any questions about this policy, or need clarification on any of the District’s procedures concerning social security numbers, please either consult the District’s Policy Manual online at www.wcccd.edu or contact the Administration.

**STUDENT RIGHTS AND RESPONSIBILITIES**

The District publishes a document – the Student Handbook which includes the Student Code of Conduct and expectations for student behavior. It is the student’s responsibility to become familiar with this publication and refer to it as needed. You may obtain a copy of the Student Handbook on our website at www.wcccd.edu.

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.