

JACKSON
Community

jcc
COLLEGE

The Smart Choice!

2003 - 2005

catalog



2111 Emmons Rd., Jackson, MI 49201-8399
(517) 787-0800 Toll Free 1-888-522-7344
www.jccmi.edu

2003 - 2005 CATALOG

BOARD OF TRUSTEES

Board Chair

Dennis DaPra

Trustees

Charles E. Anderson

Dr. Michael W. Burgess

William S. Lambkin

Dr. Edward A. Mathein

Christina L. Medlar

Dr. George E. Potter

President/CEO

Dr. Daniel J. Phelan

It is the policy of Jackson Community College that no person shall be discriminated against on the basis of race, color, religion, national origin or ancestry, age, sex, marital status, or handicap, excluded from participation in, denied the benefits of, or otherwise be subjected to, discrimination in any program or activity for which it is responsible for or for which it receives financial assistance from the U.S. Department of Education.

JCC has made every reasonable effort to determine that everything stated in this catalog was accurate at the time it was printed. Please check online at www.jccmi.edu for the most current version.

QUICK REFERENCE

JCC PHONE NUMBERS

Admissions	(517) 796-8425
Advising	(517) 796-8402
Bookstore	(517) 796-8440
Business & Industry Development Center ...	(517) 796-8448
Cashier	(517) 796-8420
Center for Student Success. . .	(517) 796-8415 TTY 796-8417
College Incentive Program (CIP)	(517) 796-8133
Dahlem Environmental Education Center ...	(517) 782-3453
Dean, Arts and Sciences	(517) 796-8610
Dean, Occupational Education	(517) 796-8502
Dean, Student Services	(517) 796-8409
Fieldhouse	(517) 796-8455
Financial Aid	(517) 796-8410
General Information	(517) 787-0800
Human Resources	(517) 796-8460
Institutional Advancement	(517) 796-8172
JCC Flight Center, Adrian	(517) 263-1351
JCC Flight Center, Jackson	(517) 787-7012
JCC Foundation	(517) 787-0244
JCC Johnson Downtown Center	(517) 787-3600
JCC LeTarte Center, Hillsdale	(517) 437-3343
JCC Lenawee Center	(517) 265-5515
Learning Resources Center (Library)	(517) 796-8622
Marketing	(517) 796-8416
Nursing Admissions	(517) 796-8424
Office of College Diversity	(517) 796-8470
Potter Center Ticket Office	(517) 796-1600
President's Office	(517) 796-8403
Records/Transcripts	(517) 796-8405
Registrar	(517) 796-8584
Registration	(517) 796-8400
Space and Science Center (Michigan)	(517) 787-4425
Speakers Bureau	(517) 796-8172
Student Life Office	(517) 796-8628
Switchboard	(517) 787-0800
Toll Free Number	1-888-522-7344
Transcript Request (Recording)	(517) 796-8602
Tutoring (Main Campus)	(517) 796-8415
Veteran Affairs	(517) 796-8410

CHAPTER 1 – Welcome to JCC

About JCC	4
Accreditation	4
Transfer Guarantees	5
Policies	6
Johnson Downtown Center	7
Lenawee Center	7
LeTarte Center, Hillsdale	7
Distance Learning	8
George E. Potter Center/Institutional Advancement	8
Flight Center, Jackson	8
Flight Center, Adrian	8
Michigan Space & Science Center	9
Dahlem Environmental Education Center	9

CHAPTER 2 – Admissions

Admission Process	10
Course Placement	10
New Student Orientation & Advising	10
Registration	11
Credit for Prior Learning	11
Student Status	12
Changing Your Mind	13
Financial Aid	13
Veteran Affairs	14
On-Campus Student Employment	15

CHAPTER 3 – Registration & Records Services

Academic Year	16
Registration Procedure	16
Student Classifications	16
Tuition & Fees	16
Residency	16
Refund Policy	16
Grading System	17
Withdraw/Drop Procedure	17
Transcripts	19
Student Records Access & Privacy	19
Graduation & Commencement	20

CHAPTER 4 – Services to Help You Succeed

Student Center — Main Campus	22
Academic Advising Services	22
Career Advising	22
The Center for Student Success	23
Learning Resources	24
Bookstore	25
Food Services — Main Campus	25
Transportation — Main Campus	25

Student Life & Campus Activities	25
Student Honors	26
Office of College Diversity	26
Fieldhouse Services	27

CHAPTER 5 – Extending into the Community

Business & Industry Development Center	28
Minority Student Services	28
Campus Child Care	28

CHAPTER 6 – Degree Options & Requirements

Associate Degree Options & Requirements	29
Graduation Requirements	29
Certificate Requirements	29
Skill Set Credentials	30
General Education Philosophy	30
Substitutions & Waivers	31
Student Assessment	31
Academic Skills Requirements	31
Associate in Arts	32
Associate in Science	34
Associate in General Studies	36
Associate in Applied Science	38
Transfer Information	38
Second Admit Programs	39
MACRAO Agreement	40

CHAPTER 7 – Career Pathways at JCC

Arts & Communication	41
Business, Management, Marketing & Technology	46
Engineering/Manufacturing & Industrial Technology	59
Health Sciences	69
Human Services	87
Natural Resources & Agriscience	97

CHAPTER 8 –

Course Descriptions	98
Faculty	134
Adjunct Faculty	138
Administration	140
Staff	141
Index	146

PROGRAMS OF STUDY

Along with associate degree and certificate programs offered at JCC, transfer programs with "Sample Curriculums" are listed. This is only a partial list of transfer programs at JCC. Please see "Important Information for Transfer Students" on pages 38-40.

A+ /Network+ Skill Set Credential	50
Accounting/Finance—Associate in Applied Science	46
Accounting/Finance—Certificate	47
Accounting or Business Administration Bachelor's Degree Option with Siena Heights University	59
Apprenticeship Information	66
Art (Transfer Information & Sample Curriculum)	41
Automotive Service Technology — Associate in Applied Science	59
Automotive Service Technology Certificate	62
Automotive Skill Set Credentials	
Wheel Service	62
Driveability	62
Powertrain	62
Aviation Flight Technology—Associate in Applied Science ..	62
Biology (Transfer Information & Sample Curriculum)	97
Biomedical Sciences—pre-medicine, pre-dental, pre-pharmacy (Sample Curriculum)	85
Business—Associate in Arts	58
Business Administration—Associate in Applied Science	47
Business Administration—Certificate	48
Business Skill Set Credentials	49
CDA- Child Development Associate Credential Preparation	90
Climate Control Technology—Associate in Applied Science	66
Climate Control Systems—Certificate	67
Computer Aided Drafting (CAD)—Skill Set Credential	63
Computer Programming Specialist—Associate in Applied Science	51
Computer Programming Specialist—Certificate	52
Computer Science (Transfer Information & Sample Curriculum)	59
Corrections—Associate in Applied Science	91
Corrections—Certificate	92
Corrections Officer (State of Michigan Certified)	93

Corrections Skill Set Credential	93
Criminal Justice Programs (Transfer Information & Sample Curriculum)	94
Customer Energy Specialist—Certificate	63
Dental Hygiene (Transfer Information)	85
Diagnostic Medical Sonography—Associate in Applied Science	69
Diagnostic Medical Sonography—Certificate	71
Diagnostic Medical Sonography Echocardiography — Associate in Applied Science	73
Diagnostic Medical Sonography Echocardiography — Certificate	75
Diagnostic Medical Sonography Vascular Technology— Associate in Applied Science	71
Diagnostic Medical Sonography Vascular Technology— Certificate	73
Early Childhood Development and Education—Associate in Applied Science	87-89
Early Childhood Development and Education — Skill Set Credentials	89-90
Education—(General Information)	95
Electrician — Associate in Applied Science	67
Electrical Basics Skill Set Credential	68
Electrician—Certificate	68
Electronic Technology/ELT—Associate in Applied Science	64
Electronic Technology/ELT Certificate	65
Electronic Technology/ Microcomputer Support —Associate in Applied Science	64
Electronic Technology/Microcomputer Support	
—Certificate	66
Emergency Medical Services—Associate in Applied Science	75
Emergency Medical Services—Certificate	76
Emergency Medical Technician Basic Skill Set Credential	76
Engineering (Transfer Information & Sample Curriculum) ..	68
English (Transfer Information & Sample Curriculum)	44
Graphic Design—Associate in Applied Science (Visual Communication)	41
Graphic Design—Certificate (Visual Communication)	43

History (Transfer Information & Sample Curriculum)	45
Law Enforcement—Associate in Applied Science	93
Law Enforcement—Certificate	95
MACRAO Articulation Agreement with Colleges & Universities	40
Management—Certificate	49
Marketing—Certificate	50
Mathematics (Transfer Information & Sample Curriculum) . .	97
Medical Assistant—Associate in Applied Science	77
Medical Assistant—Certificate	78
Medical Laboratory Technology (Transfer Information)	85
Medical Receptionist/Insurance Biller—Certificate	79
Medical Receptionist/Transcriptionist—Certificate	79
Medical Sciences (Transfer Information & Sample Curriculum)	85
Microcomputer Applications Specialist—Associate in Applied Science	52
Microcomputer Applications Specialist—Certificate	54
Microsoft Office User Specialist—Certificate	54
Music (Transfer Information & Sample Curriculum)	45
Networking Specialist—Certificate	55
Nursing—Associate in Applied Science	80
Nursing—General Information	79
Nursing—JCC/U of M Bachelor in Science (Transfer Information)	85
Nursing—LPN to ADN—Associate in Applied Science	81
Office Automation Specialist—Associate in Applied Science	56
Physical Therapy (Transfer Information & Sample Curriculum)	86
Political Science (Pre-Law) (Sample Curriculum)	95
Practical Nurse—Certificate	83
Pre - Architecture (Transfer Information & Sample Curriculum)	68
Pre-Veterinary (Transfer Information & Sample Curriculum)	86
Psychology (Transfer Information & Sample Curriculum) . . .	95

Radiography—Associate in Applied Science	84-85
Social Work (Transfer Information & Sample Curriculum) . . .	95
Theatre (Transfer Information & Sample Curriculum)	45
Web Design & Multimedia—Associate in Applied Science (Visual Communications)	42
Web Design & Multimedia—Certificate (Visual Communications)	43



If you've picked up this catalogue, you are no doubt having thoughts about pursuing higher education and wondering if Jackson Community College is right for you. Let me assure you that JCC offers a broad array of courses, degree programs, and co-curricular activities.

Consider the importance of quality learning in today's fast-changing world. At JCC, we strive to provide excellent

learning opportunities for students in a wide range of fields. Whether you're starting a new career, returning to college for more education or making a career change, access to quality education is your key to future success. JCC maintains close ties with the local services, business, and industry sectors to stay current with what the job market demands.

The community college is also an excellent first step toward further study at a four-year college or university. If a bachelor's degree is your goal, JCC offers guaranteed transfer (pre-baccalaureate) programs to most of the public universities in Michigan. We also have a number of articulation agreements that allow students to take a majority of their coursework through JCC before transferring, providing greater convenience and cost savings.

We've also rededicated ourselves to our students and student life. Just last year we inaugurated the Golden Jets Hockey team, established the Student Parliament, various clubs and organizations, and created new student spaces to foster an environment that is both comfortable and conducive to spending relaxed time with your friends and classmates.

Most of all, at JCC, we believe in putting the student first. Our faculty and staff are committed to providing excellent instruction and service, with a personal touch. With a variety of campus activities offered currently and more being developed, JCC truly is a great place to start.

Allow me to help you to stop by and look us over. Visit our Office of Admissions, tour our campus facilities, or stop by any of our centers and let our excellent staff meet with you about your career goals. It is my belief that you will find JCC to be an outstanding choice for your college plans!

Best wishes,

Daniel J. Phelan, Ph.D.
President/CEO

ABOUT JCC

JCC was founded as Jackson Junior College in 1928 and operated as a division of the Jackson Union School District, sharing lab and library facilities with the high school. In 1962, Jackson County voters created Jackson Community College as a distinct entity; and in 1964, they passed a charter millage that still funds the College today.

Rapid enrollment and program growth in the 1960s spurred JCC to build a new campus on its present site. Today, the College owns more than 500 acres and sits on a scenic rural site six miles south of the city of Jackson, with Centers in downtown Jackson, Adrian and Hillsdale. An integral educational and economic force in the Jackson-Lenawee-Hillsdale communities, JCC operates on a \$25 million dollar general fund budget.

Each year, some 10,000 students enroll at JCC, with 78 percent attending part-time. About 64 percent take classes on the main campus; others attend one or more of JCC's Centers, take on-site classes sponsored by their employer or take advantage of classes at special sites. About 38 percent of JCC courses are taken by students planning to transfer to a four-year college or university. JCC has approximately 93 full-time faculty (11 percent have doctorate degrees) and 286 adjunct faculty, many of whom teach at more than one JCC location. The College is supported by about 144 full-time and 51 part-time administrators and staff members.

In its efforts to be more accessible to students, the College operates three Centers in the tri-county region, each with many of the same services available on the main campus. The Centers include the Lenawee Center of Adrian, the LeTarte Center of Hillsdale and the Johnson Center in downtown Jackson.

ACCREDITATION

- Commission on Institutions of Higher Education of the North Central Association of Colleges and Secondary Schools. (For information, contact the Accreditation Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools, 30 North LaSalle St., Suite 2400, Chicago, IL 60602-2504, (800) 621-7440).
- Association of Collegiate Business Schools and Programs for the offering of programs in accounting, management and marketing.
- Committee on Allied Health Education and Accreditation for the offerings of the diagnostic medical sonography program and medical assistant program.
- The Michigan Board of Nursing for the offering of nursing programs.
- National Automotive Technicians Educational Foundation for the offering of automotive programs.

MISSION

The mission of Jackson Community College is to provide quality learning opportunities for individual growth and community improvement. In fulfilling its mission, Jackson Community College provides learning opportunities and other programs and services which:

- Enable learners to transfer college credit and pursue their education at other institutions.
- Enable learners to become employed and advance in a variety of occupations.
- Enable learners to participate successfully in general, occupational or transfer programs.
- Enable workers to become or remain productive employees.
- Assist learners in identifying and reaching their educational goals.
- Support the economic development of individuals and the community.
- Enrich cultural, avocations and other intellectual interests of individuals and the community.

VISION

Jackson Community College is the learning college of choice for the communities it serves. It is valued as an essential contributor to the intellectual, cultural and economic well-being of those communities. It meets the expectations of all stakeholders. In fulfilling this Vision, Jackson Community College:

- Is a community of learners (students, employees, trustees) who respect each other as full partners in the learning process and welcome diversity among those learners.
- Provides learning experiences which result in substantive change in individual learners and assesses that change.
- Honors teaching which produces the greatest learning.
- Generates active learning and provides learners with collaborative/cooperative learning opportunities.
- Aligns the role of the faculty by the needs of the individual learners and responds to those needs by recognizing different learning styles and offering a variety of methods and options for learning, including distance learning.
- Cares about the success of the learners while maintaining high academic standards and expecting learners to share responsibility for their own learning.
- Ensures opportunities across the curriculum for learning the critical skills of communication, computation, problem solving, working in teams, knowledge management and developing practical, analytical and creative intelligence.
- Employs technology extensively in the learning process and supports that technology.
- Serves as a community hub with connections to other institutions and organizations.

VALUES

The following organizational values guide all policies and practices at the College.

INTEGRITY

Responsible, accountable and ethical behavior. Honest and open communication. Intellectual honesty.

CARING

Mutual respect and trust. Commitment to student success. Responsiveness to student and other customer needs. Respect for differing viewpoints.

INTERDEPENDENCE

Partnerships with business, industry, government, other educational entities and our communities. Active student participation in their own learning.

QUALITY

Academic excellence. New ideas and technologies to serve our students and other customers. Creative risk taking. High quality programs and services. Continuing improvement in team-based culture.

INCLUSION

Programs and activities that attract, nurture and support a diverse student and staff community. Programs accessible to all persons in the College service area.

SERVICE

Service to our students and from our staff.

TRANSFER GUARANTEE

Jackson Community College guarantees that any course which is included on an official JCC transfer guidesheet or course equivalency guide transfers to that baccalaureate degree institution, provided the following criteria are met:

- Earn a minimum grade of 2.0 in the course(s) you transfer.
- Meet the admission criteria of the baccalaureate degree institution.
- Transfer to a baccalaureate degree institution within three years of completing the course(s) you wish to transfer from JCC.

Keep your record current with the JCC Records Office so that your program of study and your intended transfer institution are correct and accurate. Changes in program of study or transfer institution may impact the transferability of courses taken before the change. Contact an academic advisor if you have any questions about transferability of courses as a

result of changing your program of study or transfer institution. Change forms are available in the Student Center on main campus, or at the JCC Centers.*

If you meet all of these conditions, JCC will refund your tuition for any course that is not accepted for transfer by the baccalaureate degree institution.

**JCC cannot guarantee courses taken at other colleges or universities.*

If you have questions, or for more information about the JCC guarantee, contact an academic advisor.

CAREER PROGRAM GUARANTEE

Jackson Community College guarantees that the courses you take in any Associate in Applied Science Degree program will give you the entry-level skills you need for that particular occupation, providing the following criteria are met:

- Follow and complete the official JCC program guidesheet for course selection and sequencing. Apply for and be approved for graduation (the full program of study must be completed at JCC).
- Be employed full time in a job related to your JCC program of study within one year of graduation.
- Keep your record current with the JCC Records Office, to ensure your program of study is correct and accurate.

Note: Although some students are employed prior to graduation, the guarantee will only apply if you have completed all courses required for graduation prior to becoming employed in your field of study.

If you are subsequently judged by an employer to be lacking in technical job skills normally expected of any entry-level employee, JCC will provide further skill training up to 16 credits within two academic years without additional charge for tuition or fees.

In order to be eligible for retraining, the employment must be certified by the Enrollment Services on the main campus as being directly related to the graduate's program of study.

The employer must certify in writing that the employee is lacking the entry-level job skills identified at the time of initial employment, and must specify the area(s) of skill deficiency within 90 days of the graduate's initial employment.

This guarantee applies only to those skills for which the student received training in his or her program at Jackson Community College. It does not apply to students who fail to pass licensing, certification, or registration tests required by an external body.

The employer, the graduate and a faculty advisor in the program of study will develop an educational plan which specifies the courses constituting up to 16 credits of retraining. The graduate must meet all prerequisites, co-requisites, and other admission requirements for retraining courses.

POLICIES

Many JCC policies are published in Student Rights and Responsibilities, a handbook distributed to every student upon enrollment. Copies are available at the Student Center, 2nd floor, George E. Potter Center, main campus and all JCC locations, or by calling (517) 796-8402.

ACADEMIC POLICIES: See page 17

DRUG-FREE CAMPUS

JCC strictly prohibits the illegal manufacture, possession, use or distribution of controlled substances including alcohol, marijuana, narcotics, stimulants, depressants and hallucinogens. No person shall come on College premises or participate in a College-related activity while under the influence of such a substance. Violators will be subject to discipline and sanctions, up to and including expulsion. (See Student Rights and Responsibilities handbook.)

POLICY REGARDING WEAPONS ON CAMPUS

Possession of any firearm or any other potentially lethal items or dangerous weapons on campus or College property is prohibited. Violation of this policy by a student or employee may result in disciplinary action and/or referral to law enforcement authorities for prosecution. Other persons violating this policy (with the exception of individuals licensed or legally permitted to carry firearms) may be removed from campus, prohibited from returning and/or referred to law enforcement agencies for prosecution.

RESPONSIBLE USE OF INFORMATION TECHNOLOGY RESOURCES

Jackson Community College makes available information technology resources such as computers, Internet and campus intranet access, to students, staff and faculty, and authorized guests who are performing educational, cultural, or other tasks related to the College mission. JCC supports an open environment for sharing information where freedom of expression is encouraged and protected. The College computing community is based on a spirit of mutual respect and cooperation to create an open community of responsible users.

Standards, legal and ethical, that apply to the use of information technology resources derive from standards of common courtesy and common sense apply to any shared

resource. JCC's Responsible Use Policy includes guidelines on topics ranging from password and file protection to privacy and copyright issues. The policy also defines a process for investigating possible violations of the guidelines.

All users are expected to be familiar and comply with the Responsible Use Policy. It is in several publications, including the Student Rights and Responsibilities handbook available in the main campus Student Center and the main offices of the LeTarte Hillsdale, Lenawee and Johnson Downtown Centers. The policy is also available online or by calling the Solution Center, (517) 796-8639.

SEXUAL HARASSMENT

Sexual harassment or sex offenses of any type are not tolerated on campus. Offenders are subject to College disciplinary action and/or criminal prosecution. Disciplinary proceedings for employees or students may result in termination. In any on-campus disciplinary proceeding, both the accused and the accuser may have others present during the hearing. Likewise, both parties will be informed of the outcome of the proceedings. If a person believes that any part of the JCC system has violated civil rights, complaints should be brought to the immediate attention of the compliance officer, Human Resources Department (517) 796-8460. (See Student Rights and Responsibilities handbook.)

JOHNSON DOWNTOWN CENTER

230 W. Cortland Jackson, MI 49201
Phone: (517) 787-3600 • FAX: (517) 787-3627

The Johnson Downtown Center was opened in Fall of 1991. JCC offers classes in seven classrooms on the first floor with an additional computer lab on the second floor. A mini computer lab is also accessible with four computers for students to utilize during hours that the Center is open. The Center offers a student lounge, a career resource library and bookstore, open limited hours during registration each semester. Classes are offered each semester with a variety of scheduling including day, evening and Saturday classes to meet the needs of the students.

In 1992, Spring Arbor University joined the Johnson Downtown Center by offering services and bachelor's degree completion programs at this location.

LENAWEE CENTER

1008 W. Maple Ave. Adrian, MI 49221
Phone: (517) 265-5515 • FAX: (517) 265-5450

Combining education with the benefit of being "close to home" Jackson Community College, Lenawee Center in Adrian is designed to meet the community needs. Nestled in a suburban setting, the Center is within minutes of the highway, shopping, restaurants and recreation but still provides an ideal atmosphere for serious learners.

In August 1989, the College opened this location to expand the offering in the community. The rapid growth from 280 students to over 900 students demonstrated the need for the quality education JCC could offer. This 18,000 square-foot structure offers students a way to complete some associate degrees or with the guaranteed transfer agreement, a student could complete their first two years of college credits and transfer to a four-year university.

This location offers one-stop services. We know time is important to our students, so the JCC Centers offer the convenience of buying books, registration, advising, financial aid, career placement and scheduling of classes on-site. All designed to make the enrollment process easy for the students with highly trained, approachable staff.

JCC is now offering flight training at the Lenawee County Airport in Adrian. JCC grew its Jackson flight training program into one of the largest and safest community college flight training programs in America. For information contact Jeff Fisher at JCC Flight Center at Lenawee County Airport; (517) 263-1351.

Jackson Community College of Lenawee plans to continue its growth and teaching excellence. JCC will be relocating to 1376 N. Main Street, Adrian, MI 49221. The new site will be named JCC @ VoTech. It is anticipated that JCC will be at this new location beginning Fall 2003. This new site will allow the Center to offer additional courses and programs in new classrooms.

LETARTE CENTER HILLSDALE

3120 W. Carleton P.O. Box 712 Hillsdale, MI 49242
Phone: (517) 437-3343 • FAX: (517) 437-0232

On November 21, 2000, the Hillsdale Center was renamed to honor JCC's former President Clyde E. LeTarte and his service to the College and the tri-county area.

The LeTarte Hillsdale Center thrives offering nearly 700 students more than 90 classes. JCC has a long history of offering classes in Hillsdale. Prior to the opening of the Center, all classes were offered through the adult education program at Hillsdale High School.

Continued growth resulted in the LeTarte Hillsdale Center. This 10,700-square-foot facility houses seven classrooms, one computer lab, conference room, a lounge area with vending machines, and student computers in the lobby area, available any hours that the Center is open. All classrooms also have Internet connections. Academic advising is available by appointment. The LeTarte Center offers one-stop services designed to make the enrollment process easy for students.

DISTANCE LEARNING

JCC's distance learning courses allow students to complete their coursework without time and place restrictions. These courses teach the same concepts and require students to master the same competencies as courses offered on campus; the difference is in the delivery. Although students can work on their course work at any time and any place, there are timelines and due dates in the online courses.

While distance learning can take a wide variety of forms, all distance-learning activities are characterized by the separation of place and/or time between the instructor and the learner. At JCC, the major difference between distance learning online courses and traditional courses is the mode of instructional delivery. Traditional courses are generally structured around a group of students meeting at a fixed time and place. Distance learning courses are considered equivalent to JCC's traditional courses with the same content and the same guarantees of transfer to other two- and four-year colleges.

Online courses provide schedule flexibility. Distance learning courses are not necessarily suited to all students' learning styles or needs. They also should not be considered "open entry/ open exit" courses. There are timelines and due dates in the online courses. Some students find it difficult to study independently and need face-to-face contact with an instructor and other students on a regular basis. Self-motivated learners with strong reading, writing and computer skills have the best success with these modes of instruction. Distance learning courses do have enrollment limits. Registering for classes early is advised.

For more information about JCC's Distance Learning Program, visit our web site at <http://www.jccmi.edu/distance-learning> or call toll-free at 1-888-522-8744.

If you are looking for additional transferable distance learning courses not currently offered by JCC, visit the Michigan Community College Virtual Learning Collaborative (MCCVLC). The Michigan Community College Association, with support from the Michigan Virtual University, has created a virtual learning collaborative (MCCVLC) among Michigan's community colleges. The collaborative allows Michigan community college students to take courses from other member colleges while receiving support services and maintaining their academic record at their designated home college. Visit

the MCCVLC web site at <http://www.mccvlc.org> for more information.

GEORGE E. POTTER CENTER/INSTITUTIONAL ADVANCEMENT

Ticket Office: (517) 796-8600

Rental information: (517) 796-8473

Performers rave about the world-class acoustics of the Harold Sheffer Music Hall, one of three theatres in the George E. Potter Center. Celebrities such as Bill Cosby, Shirley Jones, Tony Orlando, Ronnie Milsap and The Smothers Brothers take the stage here as well as stage productions that include Grease, South Pacific and Madame Butterfly. The Michael Baughman Theatre, a smaller, more intimate stage, hosts such groups as JCC's Theatre Department and the community's Center Stage Jackson. The Ruth Day Theatre, a stage in the round, welcomes even smaller audiences.

More than a hundred community organizations rent the George E. Potter Center's facilities each year, including the Federer meeting rooms and Robert E. Snyder Dining Room.

The George E. Potter Center is also a popular site for weddings and family celebrations, offering complete catering and set-up services. Assistance with audio visual equipment is also available.

JCC FLIGHT CENTERS

JCC Flight Center at Reynolds Municipal Airport
3610 Wildwood, Jackson, MI 49202-1811
(517) 787-7012

JCC Flight Center at Lenawee County Airport
2651 Cadmus Road, Adrian, MI 49221
(517) 263-1351

The JCC Flight Center, established in 1979, is a 5,200-square-foot facility complete with lounge, briefing room, simulator room, classroom and hangar.

JCC utilizes seven modern Cessna and Piper single and multi-engine aircraft. Facilities are state-of-the-art to increase effectiveness of flight training.

JCC provides an associate degree as well as private and commercial pilot certification. Other areas of certification include instrument, multi-engine and as flight instructors. Coursework/credits may transfer to a four-year college or university for a bachelor's degree in aviation.

JCC also offers flight training at the Lenawee County Airport in Adrian. JCC grew their Jackson flight training program into the largest and safest community college flight training programs in America.

MICHIGAN SPACE & SCIENCE CENTER

2111 Emmons Rd., Jackson, MI 49201-8399
(517) 787-4425

View a moon rock through a microscope, try on an astronaut helmet, sit in a space capsule simulator, explore a black hole or examine the moon's surface through 3-D glasses.

The Center opened in 1977 with a futuristic architecture marked by its golden, geodesic dome that rises 40 feet high and spans 12,000 square feet, with more than \$40 million in space artifacts and displays provided by the National Aeronautics and Space Administration (NASA) and the Smithsonian Institute.

The Michigan Space and Science Center also offers:

- Science curriculum to support elementary school core and science objectives in "Electricity" and "Magnetism".
- Overnight camps for ages eight to fourteen year olds (in groups of 20-30) that provide educational, social, and entertaining experiences to heighten a student's interest in space and science.

For more information on the Space and Science Center call (517) 787-4425 or visit our website at www.jccmi.edu.

THE DAHLEM ENVIRONMENTAL EDUCATION CENTER

7177 S. Jackson Rd., Jackson, MI 49201-9769
(517) 782-3453

For quiet discoveries - photograph, sketch, observe and discover the wonder of wildlife and plants found in southern Michigan habitats.

The Dahlem Environmental Education Center is a public, nonprofit organization that bridges the gap from the human to the natural environment. Located on College property, it provides educational services for more than 26,000 visitors annually.

Dahlem offers five miles of hiking trails through forest, fields, marshes & ponds, as well as a half-mile special needs trail (all-terrain wheelchairs are available upon request). Annual special events:

- Ski weekend (mid-January)
- Bluebird Festival (early April)
- Fall Festival (last Sunday in September)
- Goblin Walks (late October)
- Holiday Bazaar (first weekend in December)

Call for information on Dahlem Center hours, trails and Nutshell Gift Shop.

ADMISSIONS PROCESS

JCC is an equal opportunity, equal-access college with an open-door admission policy.

- Admission is open to anyone who has graduated from high school or who has a high school equivalency certificate such as a GED.
- Admission is open to others who demonstrate the capacity and maturity to benefit from programs and courses offered by JCC.
- International students are welcome at JCC. See page 12 for special admissions procedures.
- Students still in high school may attend with the written permission of a parent or legal guardian and school principal or counselor (dual enrolled) by using the High School Dual Enrollment form, available from area schools, online, or at any JCC location.
- Admission to JCC does not guarantee admission to a specific program of study. Students interested in nursing, allied health or apprenticeship programs in particular should consult with an academic advisor.
- Applicants must follow the requirements below.

ADMISSION PROCESS

1. Submit an application for admission.
 - International students must submit their application 12 weeks prior to enrollment.
 - Former JCC students who have not attended JCC for more than one year must update their student record.
 - Applicants who completed the admission process but did not register for classes within one year must update their record by contacting JCC Admissions.
2. Recent high school graduates should have ACT or SAT scores and any advanced placement test results sent to JCC. If these scores are on a high school transcript, send an official document directly to JCC's Admissions Office. (These are used for placement purposes only; JCC's placement assessment may also be required.)
3. Degree-seeking students should have official transcript(s) from all prior colleges/universities sent directly to JCC Admissions.
4. Participate in Course Placement, if necessary.

COURSE PLACEMENT

New students pursuing a certificate, degree or transfer program should participate in our Course Placement. Results from Course Placement help academic advisors select appropriate classes for the student. When Course Placement

scores indicate a need for skill development, the student is required to take developmental classes. Course Placement information is available via our web page.

Students may be excused from Course Placement if they have adequate ACT or SAT scores, have previous successful college course work in reading, writing, and mathematics, have received a waiver from a JCC advisor, or have Course Placement results from another college or university.

NEW STUDENT ORIENTATION AND ADVISING

New students will have the opportunity to meet with an advisor to review their educational plans, select courses and register. During this session, students will learn about JCC policies, procedures and services. New student information is also available via JCC's web page.

Advisors will need transcripts from the high school and previous colleges to assist students. If the student is still attending high school, arrange to have a final official transcript sent upon graduation.

TRANSFERRING CREDITS TO JCC

Students who have studied at other institutions of higher education may have those courses evaluated for possible JCC credit. Transcripts and official documents are evaluated only if the student has a current Application for Admission on file. The following are guidelines for transferring credit to JCC:

1. Only official transcripts are evaluated for transfer credit to be posted to an academic record. Student grade reports or student copies of transcripts are only used for advising purposes, not credit evaluation.
2. Only credit granted by regional accrediting associations (i.e. North Central Association of Colleges and Secondary Schools) are considered for transfer to JCC.
3. Credits, not grades, are evaluated for transfer credit with a 2.0/C or better.
4. Evaluation of credit is not necessary when a student has received a two or four-year degree from another institution, except for courses that apply to the student's declared program at JCC.
5. Evaluation of credits from non-semester schools is based on consistent course content. If course content is evaluated as consistent, the course requirement is evaluated as met; however, the student is responsible for meeting the total credits required for the declared JCC program.

6. Military Service Credit may be awarded where such credit is applicable to the student's declared JCC program. Evaluations of military credit are consistent with the American Council on Education's Guide to the Evaluation of Education Experiences in the Armed Forces recommendations (ACE).
7. JCC recognizes Advanced Placement (AP), College Level Examination Program (CLEP), and Defense Activity for Non-traditional Education Support (DANTES). Scores on AP are course specific in order to receive academic credit. See the JCC website for specific scores. CLEP score must be at or above the 65 percentile.
8. A minimum of 12 credits must be taken at JCC to earn a degree or certificate. For an additional degree, 12 additional credits must be taken at JCC. For an additional certificate, six additional credits must be taken at JCC.

REGISTRATION

It's easy to register for classes at JCC!

- For new students on main campus, registration takes place during new student orientation. New students at any Center may need to schedule an appointment for orientation and then register. Contact the closest location for details.
- For guest students and those taking classes for personal interest or continuing education, registration can take place at any JCC location. Orientation and course placement may be waived for students who have met the prerequisites.
- For returning students, registration can be completed in person in the Student Center, at any JCC location, by mail, by fax or online. Easy instructions are included in each semester's schedule of classes. Those who have been students within the last two years may be able to register online.
- The registration period normally begins one month prior to each semester/session with the publication of the Schedule of Classes. View the Schedule online by visiting e-Services on our website.

Points to Remember

- It is the student's responsibility to satisfy all prerequisites and co-requisites prior to enrolling in a course. The College reserves the right to drop students from courses for which they do not meet these requirements.
- Payment arrangements must be made at time of registration. Holds are placed on the student's registration, records and transcripts until financial obligations are met.
- Students who qualify for financial assistance need to obtain the appropriate documents from Student Financial Services and give them to the cashier.

CREDIT FOR PRIOR LEARNING

You may be able to get college credit for work and life experiences if these experiences have helped you acquire college-level competencies and skills required in specific college courses.

- Have you participated in training programs or seminars sponsored by your employer or professional association?
- Have you benefited from specific military education?
- Have you participated in community and volunteer activities?

These experiences often include significant learning experiences that develop mastery of college course content and skills for credit assessment. Credits awarded for prior learning are applicable for degree and certificate requirements and may be earned by the following options:

PRIOR LEARNING OPTIONS

Jackson Community College recognizes that some students enter college with proficiencies that warrant college credit.

Prior learning credit for waiver or substitution of a degree requirement may be granted to students through the College Level Examination Program (CLEP), Defense Activity for Non-traditional Education Support (DANTES), Advanced Placement (AP) and department exams administered by JCC faculty.

CREDIT BY EXAMINATION

Students may request credit by examination to demonstrate skills and knowledge in many courses offered by the College. The department exam may be a comprehensive written exam, oral, portfolio review, lab projects, computer programs, timed writings or any combination depending on the subject area.

Credit by examination is designed to grant credit at JCC and may or may not transfer to other colleges or universities. Credit by examination forms are available from the appropriate department chair's office or the JCC web site. Students should discuss with the chairperson the feasibility of completing the examination. If the application for credit by examination is approved, it is assigned to a faculty member who contacts the student and provides more information about the examination.

Be aware of the following:

1. One attempt at credit by examination per course is allowed. A maximum of 30 credits is allowed via credit by examination.
2. Credit by examination may not be used as a method for repeating a course.
3. Credit earned as a result of the exam will not be applied to the graduation minimum of 12 JCC credit hours.

4. To receive credit by examination, a grade of 2.0 or better must be earned. Before the credit is posted to your transcript, payment must be made to the cashier on main campus or any extension center.
5. Complete the process by paying 50% of the current in-district per credit hour rate.
6. Transcripts show credits earned for the course as a result of the exam not a grade.

PORTFOLIO DEVELOPMENT

Some educational experiences cannot be evaluated by exam, therefore students may develop a portfolio from which their college-level learning may be assessed. Students should follow these steps:

1. Contact the GEN 022 instructor or a JCC advisor for an initial interview.
2. Register and pay the tuition for GEN 022 Portfolio Development, a one-credit mini-course.
3. Submit the completed portfolio and \$5 for each credit requested. (A faculty member will assess the experience and send a recommendation to the registrar, who will notify the student of the number of credits awarded.)
4. Complete the process by paying 50 percent of the current in-district tuition rate for each credit approved. The credits (30 semester credits maximum) are recorded on your transcript.

NOTE: *Some portfolio credits are accepted for transfer from one college to another. Students should check with the transferring institutions to see if portfolio credit is acceptable.*

ARTICULATION AGREEMENTS

The College has developed a number of program articulation agreements with area career centers and other colleges. To learn whether you are eligible for advanced placement or credit for previous experience visit our website at www.jccmi.edu.

STUDENT STATUS

Students are classified according to their educational goals.

DEGREE-SEEKING

- Students working toward an associate degree or certificate.
- First-time student.
- Students who have attended another college and have transferred to JCC.

- Students who have changed from non-degree- to degree-seeking status.
- International students.

INTERNATIONAL

As bidding by the U.S. Immigration and Naturalization Service stipulations, JCC will classify as an international student any applicant who is not a United States citizen and who has been admitted to the U.S. in a temporary, nonresident status. Individuals who have refugee, immigrant or resident alien status are not classified as international students. The visa classification of each international applicant determines the admission requirements and the attendance regulations applied to the applicant.

General admission to JCC for all types of visas requires applicants to:

- Be at least 18 years old.
- Provide proof of competency in the English language.
- Provide additional documents as required by the applicant's USINS visa classification.

Admission to JCC is considered after receipt of the application and all required documents. Applicants outside the United States are advised to apply as early as possible to allow for mail delays, getting visas and exit permits, and making travel arrangements. All admission material should be received by JCC no later than twelve weeks prior to the semester registration period.

Prior to registering for classes, international students are asked to take Course Placement administered to new students. If the assessments indicate a need for improved English language skills, the student will be required to enroll in appropriate language courses.

In addition to the regular admission process, international students need to provide:

- Certified transcripts with certified English translation.
- A brief personal statement explaining educational background and plans.
- Evidence of English proficiency (550 or better for the written Test of English as a Foreign Language) or a score of 213 for computer TOEFL.
- An Affidavit of Support (F-1 students with U.S. sponsors).
- An F-1 transfer clearance form, if transferring from a U.S. college or university.
- A personal financial resource statement (with supporting documentation).
- A passport size photo.

Upon completion of these requirements, JCC issues the I-20 Certificate of Eligibility.

International students at JCC pay the out-of-state tuition rate. Restrictions may apply to some nursing and allied health programs.

Jackson Community College does not have housing for students nor does it assist in securing housing for students at this time.

Jackson Community College does not have jobs or scholarships for international students.

NON-DEGREE

Students not expecting to earn a degree or certificate. A non-degree student may:

- Take classes for individual interest or skill development.
- Be a high school guest. Students still in high school may, with permission from their parents and principal or guidance counselor, enroll for an academic course. Dual Enrollment forms are available at all JCC locations, at area high schools, and on the JCC web site. The JCC Dual Enrollment form must be used by current high school and home-schooled students to register for classes, to add classes, to drop classes and to withdraw from classes. The form must be filled out completely.
 - a. Dual-enrolled high school students (the high school pays for the classes) may take a course for college credit only, high school credit only, or both college and high school credit.
 - b. Students not dual-enrolled, i.e., whose courses are not paid by their high schools, may take the classes for college credit only.
- Be a college guest. Students attending 4-year colleges often enroll at JCC for a single semester. It's best to obtain written approval for transfer of credit to the home college before registering at JCC. Students should obtain a MACRAO guest application from their home institution. It needs to be approved by the home institution.
- Change from nondegree to degree-seeking status by updating your record on main campus or any JCC location.

CHANGING YOUR MIND

If you are a former JCC student returning to college, congratulations! Be sure to update your record if you have not attended classes for one academic year. The current admission policies and academic programs will apply, as well as the current curricula and requirements.

If you are changing your program, consult a JCC academic advisor and update your record. Students who change their program are subject to the curricula and requirements in effect at the time of the change.

If you are changing your student status, that is, you are a non-degree student who has decided to seek a degree, you must update your record.

FINANCIAL AID

Getting ready for college takes lots of planning - especially financial aid planning.

The Financial Aid Office can help you find whatever educational financial aid is available. You may have more options than you thought possible!

Call the Financial Aid Office, (517) 796-8410, for an appointment. We'll help with your questions about meeting college costs and applying for financial aid. You will find us in the Student Center, 2nd floor, George E. Potter Center, Main Campus.

TYPES OF FINANCIAL AID AT JCC

JCC administers federal, state, institutional and private sources of financial support. You may qualify for one or more of these four types of financial aid.

- Grant or scholarship - gift assistance you do not have to repay.
- Loan - borrowed money you must repay with interest.
- Work-study - part-time employment on or off campus.

FEDERAL:

Federal Pell Grant
Federal Supplemental Educational Opportunity Grant
Federal Work-Study
Federal Stafford Loans
PLUS (Parent Loan for Undergraduate Student)

MICHIGAN:

Michigan Competitive Scholarship
Michigan Educational Opportunity Grant
Michigan Adult Part-time Grant
Michigan Merit Award
Michigan Work-Study
Tuition Incentive Program
Postsecondary Access Student Scholarship

INSTITUTIONAL:

JCC Departmental Scholarships:

Allied Health & Health and Physical Fitness; Aviation Flight Technologies; Biology, Geology and Geography & Chemistry and Physics; Business & Manufacturing Technologies; Information Technology Education; Language, Literature, and Arts; Mathematics & Engineering Sciences; Nursing; Social Science.

Recognition of Excellence Scholarships:

For students seeking education through one of our six career pathways. This scholarship award recognizes academic and/or talent excellence. **Career pathways include:**

- Arts and Communications Pathway
- Business, Management, Marketing & Technology Pathway

- Engineering/Manufacturing & Industrial Technology Pathway
- Health Sciences Pathway
- Human Services Pathway
- Natural Resources and Agriscience Pathway

Student Aid Program (JCC employment):

Emergency Short-term loans:

JCC Foundation Endowed Scholarships:

Dozens of private scholarships are awarded at JCC based on criteria set by the sponsoring organizations and donors.

Examples include:

- Citizen Patriot Snowflake Scholarship for subscribers to the Jackson newspaper.
- Dorothy M. Schultz Chemistry Scholarship for chemistry majors.
- Evelyn Jones Vocal Scholarship for music/voice majors.
- Foote Hospital/NAACP Scholarship for African Americans in Health Careers.
- George and Barbara Raven Student Aid Fund for students pursuing a bachelor's degree in engineering, mathematics, physical science or natural science.
- Pleasant Lake Lions Club R. Gieske Memorial Scholarship for Northwest High School graduates who live in Henrietta Township.

Private loans are the American Association of University Women Loan and Junior Dorcas Society Loan.

HOW TO APPLY FOR FINANCIAL AID

1. Apply for admission to Jackson Community College.
2. Complete annually a Free Application for Federal Student Aid (FAFSA) form as soon after January 1 as possible.
3. Complete the JCC Scholarship and Loan application for institutional and private funding consideration.
4. Respond promptly to any requests from the Financial Aid Office for additional information such as copies of federal tax returns, verification of untaxed income or benefits, etc.
5. Explore other financial aid options available in the community. Contact high school counselors; parent/student employers; local businesses; professional, civic and social clubs and organizations; religious clergy; community foundations; and public or college libraries.

Remember, you must reapply for financial assistance each academic year.

DETERMINING THE AMOUNT OF AID

Most financial aid is awarded to students on the basis of need: estimated expenses - tuition, books, supplies, transportation, room and board, and personal expenses - minus the family's expected contribution.

Some financial aid may also be available regardless of need. Such monies may be based on a specific area of interest, academic major, talent or other category. For details, pick up a copy of "Money for College" brochure at any JCC location.

FINANCIAL AID RECIPIENTS - DROPS AND WITHDRAWALS

Students attending JCC as Title IV (Federal Funds) financial aid recipients who withdraw from all of their classes during the first 60% of the semester will be subject to an adjustment of Title IV Funds. This U.S. Department of Education calculation may result in the student owing the College. The return of Federal Title IV Funds will be in the following order: Federal Unsubsidized Stafford Loan, Federal Subsidized Stafford Loan, Federal PLUS Loan, Federal Pell Grant and Federal SEOG.

Students should consult the Financial Aid Office, prior to dropping any classes. Students will be billed for any financial obligation.

FINANCIAL AID DEADLINES

Students applying for Federal assistance based on need should file the Free Application for Federal Student Aid as soon as possible. Please contact the Financial Aid Office for application deadlines.

For more information, pick up a copy of "Money for College," a helpful brochure that outlines all of the financial aid programs administered by JCC. Brochures are available at all JCC locations. The Financial Aid Office is located on the 2nd floor, George E. Potter Center on main campus. For an appointment, call (517) 796-8410.

Students requesting financial aid consideration must apply each academic year.

VETERAN AFFAIRS

Veterans are encouraged to apply for VA educational benefits at least three months prior to the beginning of classes. Application materials are available through the Financial Aid Office, 2nd floor of the George E. Potter Center, main campus (517) 796-8410.

STANDARDS OF PROGRESS FOR VA BENEFIT RECIPIENTS

As required by the Veterans Administration, JCC has established and monitors the following standards of progress for students receiving VA education benefits.

- Students must have a cumulative grade point average of 2.0. Marks of Y (audit), W (withdrawal), IP (in progress) and I (incomplete) are considered unsatisfactory.
- Students need to progress at a rate that enables them to complete their program within the prescribed number of credits as outlined in the JCC Catalog or guide sheets.
- Students who do not meet these standards are placed on probation for the next two consecutive enrollment periods for which they are certified to receive VA educational benefits. Students are not reinstated for certification for subsequent semesters until they have, at their own expense, raised their cumulative GPA to a 2.0 and completed the application for VA education benefits or VA request for change of program or place of training.
- Students must notify the Financial Aid Office when dropping a class, whether they do so officially or just walk away from the classes. Students must report any failing grade to this office or risk delays and/or forfeiture of VA education benefits.
- JCC notifies students by mail when they are not in compliance with the standards of progress. JCC also notifies the VA when a student is not eligible for recertification.
- Students who have attended a college other than JCC need to have official transcripts sent to the Admissions office. Appropriate credit must be granted and reported to the student and the Veterans Administration. Transcript evaluation must take place during the student's first semester at JCC to be eligible for further certification to the Veterans Administration.

ON-CAMPUS STUDENT EMPLOYMENT

Student employment is one way JCC provides both financial assistance and meaningful work experience for students. In addition, student employment helps out busy College departments while developing a pool of capable employees for the community. Only JCC students are eligible to be employed through the Federal Work Study, Michigan Work Study or Student Aid programs. Each program has specific enrollment requirements, which may vary each semester. Students should consider their other commitments when considering a job on campus, i.e., class load, family obligations and other off-campus employment. High school students attending JCC by special permission may not work on campus.

JCC students interested in a part-time position should apply through Human Resources.

ACADEMIC YEAR

JCC operates on a semester system. The 16-week Fall semester begins in late August and ends before Christmas. The 16-week Winter semester begins in early January and ends in May. Commencement follows the Winter semester. The 12-week Spring semester begins in May and ends in August and includes two six-week sessions available May-June and July-August. In all three semesters, classes may run for various lengths of time. Continuous enrollment/attendance means a student must attend at least one semester during an academic year which is defined as August 1 through July 31.

REGISTRATION PROCEDURE

Register for classes in person at any JCC location, by mail, fax, or online, according to instructions published each semester in the Schedule of Classes. You may obtain a current class schedule online or by visiting or calling any JCC location. Arrangements to pay must be made at the time of registration. See page 11.

STUDENT CLASSIFICATIONS

The following student definitions are used by JCC. Other schools, agencies, government organizations and financial aid sources may use different definitions.

Full-time:	12 or more credits.
Part-time:	Fewer than 12 credits.
Overload:	19 or more credits (requires approval by the Dean of Student Development)
Freshman:	Completion of 25 or fewer semester hours of credit.
Sophomore:	Completion of 26 or more semester hours of credit.

TUITION & FEES

Total costs of attending JCC are determined by the number of billing contact hours, course fees, and other fees listed here. Please refer to the current JCC Schedule of Classes for tuition and fee rates currently in effect.

Tuition covers the actual cost of instruction. Tuition is paid by billing contact hour. Most classes carry from one to five billing contacts.

Billing Contact Hours and credit hours may vary with each course. Billing contact hours are determined by the amount of time the student spends with an instructor in the classroom.

Credit Hours are the number of credits that are applied to a student's academic record.

Student Services Fee covers costs associated with registration, grade reports and transcripts. This fee is paid by all students each registration period.

Technology Fee covers the cost of computers, networks and related technology for use on campus, such as walk-in computer labs. This fee is paid by all students for each billing contact hour.

Course Fees cover costs directly related to the course. This fee is paid on a per class basis.

Tuition and fees are subject to change at any time by action of the Board of Trustees.

RESIDENCY

Residency is based on the student's permanent address 30 days before the beginning of the semester.

Jackson County resident: A student whose permanent address is within the boundaries of Jackson County. The Board of Trustees also extends the Jackson tuition rate to:

- Permanent residents of Albion, Chelsea, Grass Lake, Homer, Leslie, Manchester and Stockbridge school districts.
- Students whose Jackson County employers are paying tuition and fees.
- Students who own property in Jackson County but keep their permanent address elsewhere.

CHANGE OF RESIDENCY

If you receive approval for a residency change by the end of the ADD/DROP period for your class(es), you receive a refund for the difference between tuition rates. You need a driver's license or state ID and one of the following documents as proof of residency:

- Voter registration card
- Vehicle registration
- Dog license
- Property tax receipt
- Rental/lease agreement

JCC reserves the right to make the final decision about residency.

REFUND POLICY

CANCELED CLASSES

A 100 percent refund is given for any class canceled by JCC.

REFUND POLICY

To be eligible for a refund, an Add/Drop form must be initiated in person, by letter or fax through the Student Center of main campus. The date the request is made determines the refund. The student must "officially" drop the course by completing the Add/Drop form. Students receive 100 percent tuition refund for any course(s) dropped on or before the last day of the add/drop period for the semester or session.

No refunds are made after this date. The add/drop period is published in the current semester's Schedule of Classes. Students are responsible for knowing the dates of the add/drop period.

An exception to this policy requires a letter of request outlining why the student dropped the class(es). The student also needs supporting documentation from a third party (doctor, lawyer, employer, other college, etc.) stating the extenuating circumstances. JCC reserves the right to approve or deny requests.

Mail to: Jackson Community College, Tuition Refund Committee, 2111 Emmons Rd., Jackson, MI 49201-8399.

DROPS

Students receive a 100 percent tuition refund for any class(es) dropped on or before the last day of the add/drop period for the semester or session. No refunds are made after this date. Student Services Fee is not refundable.

OE/OE COURSES

Students are responsible for learning "their individual" drop date determined by the first day of their OE/OE classes. In general, the refund policy is the same as the regular 16-week semester. Students receive 100 percent tuition refund for any course(s) dropped on or before the last day of their individual add/drop period.

FINANCIAL AID RECIPIENTS

If tuition and fees are paid from a financial aid source, the refund is returned directly to that source. (The refund cannot be greater than the amount actually received from that source.)

Students attending JCC as Title IV (Federal Funds) financial aid recipients who withdraw from all of their classes during the first 60% of the semester will be subject to an adjustment of Title IV Funds. This U.S. Department of Education calculation may result in the student owing the College. The return of Federal Title IV Funds will be in the following order: Federal Unsubsidized Stafford Loan, Federal Subsidized Stafford Loan, Federal PLUS Loan, Federal Pell Grant and Federal SEOG.

Students should consult the Financial Aid Office, prior to dropping any classes. Students will be billed for any financial obligation. Contact the Financial Aid Office at (517) 796-8410, for further information.

GRADING SYSTEM

GRADING SCALE

Grade	Honor Points
4.0 - Excellent	4.0
3.5	
3.0 - Superior	3.0
2.5	
2.0 - Average	2.0
1.5	
1.0 - Inferior	1.0
0.5	
0.0 - Not passing	0.0

GRADE POINT AVERAGE (GPA)

GPA is a weighted average of grades for courses taken at JCC. It does not include the following:

- Grades of W (withdrawn), I (incomplete), Y (audit), P (pass), F (fail).
- Continuing Education Classes (CED, CEU, CFO, JTI, PDI, CEO)
- Transfer credit or other credit, such as Advance Placement (AP), departmental exam, CLEP, DANTES, military service, articulation credit and experiential learning.

TO CALCULATE A GPA:

1. Multiply the grade in each course by the corresponding credits to calculate honor points.
2. Divide the total number of honor points by the number of credits to figure your GPA.

GPA's are calculated by semester and are cumulative on the transcript.

WITHDRAW / DROP PROCEDURE

DROP, NO GRADE

The add/drop period is the first 10 percent (10%) of the semester for 16-week Fall and Winter courses and 12-week Spring/Summer courses. When a student drops a course during this period, no grade is assigned and no entry is made on the student's academic record. Late start, short-length, and OE/OE courses have their own specific add/drop periods based on the first 10 percent (10%) of that particular course.

ADDING A COURSE

We want each student to be successful. Any student who wants to add a class after the add/drop period, must have the instructor's signature allowing the student into the class as well as either the dean of students or Center directors' signatures.

W - WITHDRAW

After the drop/add period, a student may withdraw from a course in accordance with the dates published in the semester class schedules.

A mark of "W" (withdraw) is recorded on the academic record but is not calculated in the grade point average. After the withdraw period for the semester ends, a request to withdraw cannot be honored and the instructor is required to assign a grade, which is used in calculating grade point average.

Students should be careful to drop or withdraw according to instructions published each semester in the Schedule of Classes. Failure to follow proper procedures may result in a 0.0 grade. It is the student's responsibility to visit the Registration and Records Services in the Student Center on main campus to ensure all proper transactions have taken place.

INSTRUCTOR-INITIATED WITHDRAW

At any time from the first day of class to the last day to withdraw, an instructor may exercise the right to withdraw a student from class. The mark issued will follow the "Drop No Grade" and "W-Withdraw" procedures stated on page 17. If the instructor requests a withdraw, you will be notified by the Registration and Records Office on main campus and given five calendar days to dispute the action. It is your responsibility to contact your instructor to request reinstatement. If the student doesn't respond within the five-day time limit, the withdrawal action stands.

OTHER MARKS

I - Incomplete: The incomplete is designed for passing students with extenuating circumstances to allow them to complete the course requirements after the semester or session has ended. You may receive an "I" if, in the opinion of the instructor, the student's work is sufficient in quality but is lacking in quantity to meet the course objectives specified in the course syllabus. The course objectives must be satisfactorily completed during the next full-length semester or within a shorter period of time as designated by the instructor. If the student does not finish the course within the designated time period, the "I" remains permanently on the transcript. Students must register and repeat the course to receive a grade and credit for degree purposes.

The mark of "I" is not awarded to students who did not attend or seldom attended, or to those who simply are not pleased with their final grades. An "I" mark may be changed only upon the written request of the instructor who awarded the Incomplete.

P/ F - Pass/ Fail: JCC may assign this option to some classes. Students cannot elect the option for any other classes. No honor points are awarded and the credits are not used in computing the GPA. Students are limited to two classes with a grade of P

for graduation purposes. Grades of P rarely transfer to other colleges.

W - Withdraw: See left.

Y - Audit: If students wish to attend class without receiving a grade or credit, the student must register for an audit. The audit option must be selected at registration or before the end of the add/drop period and the student must pay tuition and fees for the class. The student's transcript will reflect the audited courses with a mark of Y. The Y mark is not calculated into the grade point average. Credit for audit classes is not granted at a later date.

Other - E and N were used in a previous grading system and may appear on transcripts of returning students.

ATTENDANCE POLICY

Instructors may grade on attendance. Each instructor includes in the course syllabus a specific attendance policy for the class, clearly stating how attendance affects student grades.

GRADE REPORTS

Grade reports will be made available at various times during the semester. The grade report shows all classes for which a grade has been received, withdrawn (W), audited.

ACADEMIC HONESTY

Academic honesty is expected of all students. It is the ethical behavior that includes producing their own work and not representing others' work as their own, either by plagiarism, by cheating or by helping others to do so.

Plagiarism: is the failure to give credit for the use of material from outside sources. Plagiarism includes but is not limited to:

- Using data, quotations, or paraphrases from other sources without adequate documentation
- Submitting other's work as your own
- Exhibiting other behaviors generally considered unethical

Cheating: means obtaining answers/material from an outside source without authorization. Cheating includes, but is not limited to:

- Plagiarizing in all forms
- Using notes/books without authorization
- Copying
- Submitting others' work as your own or submitting your work for others
- Altering graded work
- Falsifying data
- Exhibiting other behaviors generally considered unethical

Collaboration: While JCC encourages students to collaborate in study groups, work teams, and with lab partners, each student should take responsibility for accurately representing his/her own contribution.

Consequences/Procedures: Faculty members who suspect a student of academic dishonesty may penalize the student by taking appropriate action up to and including assigning a failing grade for the paper, project, report, exam, or the course itself. Instructors should document instances of academic dishonesty in writing to the academic dean.

Student Appeal Process: In the event of a dispute, both students and faculty should follow the conflict resolution policy. This policy is presented in Student Rights and Responsibilities handbook and the Master Agreement.

GRADE POLICY FOR REPEAT CLASSES

You may repeat any class:

- Students may repeat a JCC course, but credit is given only once. The highest grade is used to calculate semester and cumulative GPAs. All final grades are a permanent part of the transcript.
- If the student repeats a course that transferred from another source, credit is only granted once and the JCC class will be used regardless of grade received. (Credit granted from another source that is repeated at JCC with a grade of 0.0, for example, is counted as a 0.0 for the GPA.) All entries remain a permanent part of the transcript and repeats not used in calculations are marked.

NOTE: *Repeated classes at JCC may be calculated differently by other colleges, so be sure to check the policy of the institution under consideration.*

GRADE CHANGE REQUESTS

The student or the instructor may initiate a Request for Change of Grade, which must be approved by the instructor, academic dean and registrar. Questions regarding grades should be discussed with your instructor.

TRANSCRIPTS

JCC maintains the permanent record and official transcripts in the Student Development Office on main campus. All final course grades are recorded on a student's academic record. Transcripts are classified as either "official" or "issued to student."

An official transcript is stamped with the College seal and signed by the registrar. An official transcript never passes through the hands of the student. Official transcripts are sent directly to the recipient, such as another institution or employer.

Official transcripts cannot be carried or mailed by the student as the recipient will not accept them as official. JCC does not release official transcripts to students.

A transcript issued to a student does not include the registrar's signature or college seal. The transcript is marked "issued to student." These transcripts are recommended for the student's reference, advising and planning purposes only.

Both types of transcripts, official and issued to student, are printed on security paper. JCC's policy on transcripts protects the integrity of the student's record and ensures its accuracy.

TRANSCRIPT REQUESTS

Transcripts are only released and issued upon the student's written request. Transcript request forms are available in the Student Center of main campus and all Centers. Transcript requests must include the following: name, former names, present address, social security number, birth date, approximate date of last attendance and signature. We cannot release a transcript without the student's signature.

Transcript requests are processed in a timely manner, with additional time needed for research of those records dating back five or more years or filed under a former last name(s).

JCC cannot fax transcripts because we cannot be assured that the recipient is the only person at the other end of the fax. Transcripts are printed on security paper, which does not allow for faxing of these documents.

There is no fee for processing transcript requests. We can overnight transcripts for a delivery fee. If overnight delivery is requested, payment arrangements need to be made prior to our releasing the record. If there is a business office hold on the record for tuition, fees or repayment of student loans, JCC does not release the official transcript until the hold is released or cleared.

Registration and Records	(517) 796-8405
Transcript request recording	(517) 796-8602
Records office fax	(517) 796-8446

STUDENT RECORDS ACCESS & PRIVACY

Release and disclosure of student records maintained by JCC is governed by state and federal laws, which provide reasonable definitions of privacy and are subject to change. JCC accords all rights under the law to students and has an accepted practice of not releasing any records without the written consent of the student, regardless of age or class standing.

The Family Educational Rights and Privacy Act (FERPA) of 1974 provides:

1. The right to inspect and review the student's educational records within 45 days from the day the College receives a request for access. Students should submit to the registrar a written request that identifies the record(s) they wish to inspect. The registrar will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records requested are not maintained by JCC, the registrar will advise the student.
2. The right to request an amendment to the student's educational records that the student believes is inaccurate or misleading. The requested amendment to the educational record must be made in writing citing specifically what portion of the record they want changed and specify why it is inaccurate or misleading. The College makes the decision to amend the requested educational record and the student is notified.
3. The right to consent of disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.
4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-4605

The following exceptions are permitted under the law:

- Employees of JCC within the limitations of their need to know.
- Accrediting agencies carrying out their accreditation functions.
- Persons in compliance with a judicial order (subpoena); however, the College makes a "reasonable effort" to notify the student prior to complying with the court order.
- A person or company with whom the College has contracted (attorney, auditory, collection agency).
- In an emergency situation, in order to protect the health and safety of other students or persons.

As stated above, JCC does not release any student information without the student's written consent, except in the circumstances permitted under the law. However, the College does verify student "directory" information. Under the law, directory information may include: student name, address, e-mail address, date of birth, place of birth, area of study, dates of enrollment, dates of employment, degrees and awards received, previous educational institutions attended and participation in officially recognized activities, clubs and sports.

A student may request, in writing, that JCC withhold all

directory information. This request should be made as close to the beginning of the semester as possible, within the first 10 days of the semester. To remove this request for withholding of directory information, the student must also do so in writing.

As a part of the College's instructional program improvement efforts, and to meet the requirements of the Carl D. Perkins Vocational and Technical Education Act, Section 113 and the Workforce Investment Act of 1998, Section 122, the College uses student's Social Security numbers to compile certain data for the purpose of instructional program improvement and Perkins and WIA reporting.

GRADUATION & COMMENCEMENT

An application for graduation needs to be filed for each degree or certificate. When applying for graduation, follow one of the following guidelines:

CURRENTLY ENROLLED STUDENTS

1. Complete degree or certificate requirements from the current catalog (year of graduation), or
2. Complete degree or certificate requirements from the catalog in effect the year a student first entered JCC (the catalog of entry) or any subsequent catalog provided that the student has maintained continuous enrollment at JCC.
3. Continuous enrollment/attendance means a student must attend at least one semester during an academic year which is defined as August 1 through July 31.

PREVIOUSLY ENROLLED STUDENTS

Students have five academic years to apply for graduation from the time they complete their last course at JCC or complete a course at another institution that they are transferring to JCC for degree completion.

Apply For Graduation By The Following Deadlines:

<u>Anticipated Graduation</u>	<u>Application Deadline</u>
December	October 1
May	March 1
August	June 1

The minimum number of credits that must be taken at JCC for any degree or certificate program is 12. A minimum of 12 additional credits must be taken at JCC for a second degree while a minimum of six additional credits must be taken at JCC for a second certificate.

Graduation applications are maintained for two semesters. After two semesters, students must reapply for graduation.

CATALOG OF ENTRY

A new College catalog takes effect at the beginning of the academic year, the beginning of the Fall semester.

Graduation requirements apply in their entirety (e.g., students cannot select specific elements of a degree/certificate program from one catalog, with other elements from another catalog).

Degree/certificate requirements may be changed during a catalog year only when the program is regulated or licensed by a government agency or other external accreditation agency, and that agency has mandated those changes. In order for JCC to provide the most current degree/certificate credentials possible, degree and certificate course requirements in a later catalog may be substituted if deemed appropriate and beneficial to the student. Any course substitutions must be approved by the department chair of the course affected and the academic dean.

GRADUATION WITH HONORS

Honors are conferred at graduation to associate degree and certificate students who have achieved the following GPAs:

- | | |
|-------------|-------------|
| 3.80 to 4.0 | High honors |
| 3.5 to 3.79 | Honors |
| 3.0 to 3.49 | Recognition |

Honors are noted on your diploma and transcript.

COMMENCEMENT

Commencement is the graduation ceremony, held annually in early May. Previous Fall and Winter graduates who have not participated in a commencement are invited to attend. Spring semester graduates* may participate before graduation if they:

- Apply by the March deadline.
- Are within 10 credits of graduation and the required courses are offered in the Spring semester.

**Student must meet with an academic advisor and must agree there is reasonable expectation that all graduation requirements will have been met.*

STUDENT CENTER - MAIN CAMPUS

The Student Center is the one-stop answer and service center on main campus. Our staff offers timely, accurate, high quality information and service. Located on the second floor of the George E. Potter Center, the Student Center offers a complete range of walk-in services, including financial aid, registration, and advising. Hours are extended to serve both day and evening students, and include some Saturdays during registration periods.

FIRST-YEAR STUDENT SUPPORT

Adjustment to college can sometimes be difficult, especially for first-year students. JCC is interested in the success of all students and believes that it is particularly important that we focus extra attention on students new to the College. JCC's Office of Advising and Admissions assists new students in making the transition to college by providing them with the information and resources they need to get off to a good start. First-year students can expect regular mailings, phone contact, planned activities and personal interaction with Enrollment Services Specialists to support their academic efforts. Please contact Enrollment Services at (517) 796-8425 should you have questions about college transition or services available to new students.

NON-TRADITIONAL STUDENT SUPPORT

Many students have been out of high school for several years, and often have primary responsibilities such as family or employment, in addition to college commitments. To help students balance the challenges of multiple responsibilities and priorities, Enrollment Services Specialists offer personalized academic advising and sponsor a variety of activities to promote a health learning environment and enhance student success. Please contact Enrollment Services at (517) 796-8425 should you have questions about our services to non-traditional students.

TRANSFER CENTER

Students can learn more about transferring to 4-year colleges and universities via JCC's web site and by visiting the Student Center. We have view books, catalogs, guidesheets, applications and scholarship information from most Michigan colleges and universities. An Enrollment Services Specialist can assist with web research for program information to help students select the most appropriate courses at JCC for transfer.

ACADEMIC ADVISING SERVICES

NEW STUDENTS

Students new to JCC have the opportunity to meet with an academic advisor during orientation. A new student seeking a degree or certificate is assigned a specific advisor during the

first semester. Advisors will review the student's education development plan (EDP), high school transcript, ACT/SAT or Course Placement results and employment experience to help map out an educational plan to achieve the student's goals.

The purpose of academic advising is to develop connections between students, faculty and staff to build supportive relationships. Academic advisors provide students with appropriate information, make referrals to campus resources and support students in achieving their goals. Faculty advisors are best qualified to discuss career opportunities in their disciplines. They usually have the clearest understanding of their department's curriculum and may be most knowledgeable about what is required of students to be successful in their fields. In addition, JCC provides extensive career exploration services.

The Student Center offers immediate access to academic advisors for quick answers to your questions. For more involved questions or extensive assistance, make an appointment with your faculty academic advisor, or an advisor in the Student Center or at any JCC location.

RETURNING STUDENTS

Advising continues throughout your JCC experience. Students are encouraged to consult with their academic advisors prior to registering for classes in subsequent semesters. Students are responsible for determining that the courses for which they are registered are applicable to their degree program.

STUDENTS INTENDING TO TRANSFER

Students should request transfer program information from the four-year universities and colleges that are being considered. Even if it's the first semester at JCC, talk with an advisor at the intended transfer institution to be sure you are taking the right courses for the program of your choice. Transfer information is also available on the JCC website, Student Center, and JCC extension center offices.

CAREER ADVISING

One-on-one career advising includes information on career planning, self-awareness, labor markets, occupations, employers, education opportunities and job search techniques. Individual academic advising is available to undeclared students and for others who need career development assistance. Creation of an Educational Development Plan (EDP) can enhance success and goal attainment.

The Career Resource Center maintains a variety of computerized career assessment programs, Internet access, reference books, videos, and periodicals. It also provides assistance with career exploration, résumé preparation, interviewing techniques, occupational outlook, and portfolio development.

COMPUTERIZED CAREER ASSESSMENTS

- **DISCOVER** is a self-directed career guidance system designed to help students identify their interests, abilities and values to build a plan based on personal profiles. Inventories provide efficient assessment of interests, job values and rating of abilities related to work. Multimedia features help motivate users with videos, graphics, photos, audio clips and audio screen directions in an easy-to-use format.
- **MOIS** (Michigan Occupational Information System) is a four-phase process that includes self-assessment of interests and abilities designed to assist in choosing a Career Pathway; extensive occupational information on over 2,000 jobs; career comparison charts and other decision-making tools; and resources for developing Educational Development Plans (EDR), resumes, and cover letters.

JOB PLACEMENT SERVICES

Jackson Community College is also pleased to provide the following job placement services, in partnership with the Michigan Works! Service Centers in Jackson, Lenawee and Hillsdale counties.

THE MICHIGAN WORKS! SYSTEM

The Michigan Works! System is a customer focused workforce development system that prepares people for work. Assistance to all employers and job seekers is available to ensure that employers are provided with a supply of skilled workers and individuals are provided with an opportunity to advance knowledge and skills to achieve economic self-sufficiency. Employers seeking workers can list their job openings on the nation's first Internet-based public labor exchange system. Job seekers can post their resumes for review by employers who are recruiting employees.

MICHIGAN'S TALENT BANK AT WWW.MICHWORKS.ORG

Provides an easily accessible Internet-based labor exchange for employers and job seekers and includes both employer job listings and employee resumes. Michigan's Talent Bank is available to all Michigan residents, regardless of employment status.

RESOURCE ROOMS AVAILABLE AT THE MICHIGAN WORKS! SERVICE CENTERS

Employers and job seekers can access local and state labor market information, job-seeking assistance such as resume writing, career information, and information about employment prospects in a specific industry.

MICHIGAN WORKS! SERVICE CENTER LOCATIONS

Jackson County

Commonwealth Commerce Center
209 East Washington Avenue
Jackson, Michigan 49201
(517) 841-5627

Lenawee County

Human Services Building
1040 South Winter Street
Adrian, Michigan 49221
(517) 266-5627

Hillsdale County

3251 Beck Road
Hillsdale, Michigan 49242
(517) 437-3381

THE CENTER FOR STUDENT SUCCESS

The Center for Student Success offers a multitude of programs, services, software, accommodations, specialized equipment, and funding to assist students academically, physically, and financially with their course work. Center staff is on hand to recommend and provide appropriate resource options you can access on campus.

RESOURCES INCLUDE:

- **Project Success** - Learn the basic "survival skills" necessary to succeed in college! Project Success Day is a special day set aside each semester to help students hone those skills necessary to ensure good grades and a great college experience. A variety of open sessions are planned with topics as varied as test-taking strategies, stress management for college students, study skills, writing the research paper, improving your math skills, and many more. Workshops vary with each event.
- **Study Group Leaders** - Leaders are selected by an appropriate faculty member to provide additional group assistance outside the classroom. Study Group Leaders are trained by the faculty member and are specifically instructed on the topics to be covered during each session. Leaders can help you make sense of your class and homework. Check with the Center for Student Success to find out which courses have Study Group Leaders.
- **Accommodations** - Accommodations are offered to students who have a documented disability. These may include: sign language interpreter, real time reporters, note takers, textbook and lecture taping, enlarged print, extended

testing time, oral testing, quiet testing place, and/or typing. Call (517) 796-8415 or TTY (517) 796-8417.

- **Funding** - Help is available with the costs of college. JCC offers a Special Populations Grant to help with costs for those who consider themselves to be: A single parent, a displaced homemaker, involved in non-traditional training, economically disadvantaged, academically disadvantaged, with a disability, with limited English

The grant offers financial assistance for tuition, fees, supplies, uniforms, books, childcare, and mileage. Students must complete the Free Application for Federal Student Aid (FAFSA) prior to applying for the Special Populations Grant. Students with the greatest financial need are served first. Grant recipients must meet program and income guidelines.

- **Tutoring** - Need assistance with a tough subject or problem area? Individual tutoring, group tutoring, free workshops and opportunities to earn while you learn are available. Student employment as a tutor is also available. Call (517) 796-8415.
- **ESL- English as a Second Language** - Improve your English-listening and reading skills with JCC's new interactive, self-paced instruction at any of four levels: ESL Beginning, ESL Basic, ESL Intermediate and ESL Advanced. They progress from learning basic names of objects and words to beginning sentence structure and communication skills, to higher grammatical structures and reading of whole paragraphs, to advanced comprehension and communication skills that will enable a student for success in a college class. The studies are designed with an interactive computer program, workbook and text. An ESL instructor is available.
- **PLATO** - PLATO is a program of computerized instruction that is designed to help students improve math, reading and writing skills. After taking an assessment, the program is set up to address areas in which you could benefit. The PLATO computer program allows you to work independently and at your own speed, practice and review old skills, or learn new ones. Call to make an appointment for your assessment at 787-0800, ext. 8303.
- **GED Preparation** - Your first step toward college may be completing your GED, and JCC can help. The College offers a computer-based interactive GED preparation program with an instructor. The PLATO program can give students the refresher they need to pass their GED exams. Preparation includes all five subject areas that comprise the GED. Once enrolled, you can use the program as much as you

like or as often as you wish. Program hours are flexible in order to fit your schedule and the lab is available during the entire year. JCC offers the GED exam regularly. Visit our web page for current dates and times.

- **Writing Assistance** - Does your mind go blank when you look at a blank page? Strong writing abilities are important in all subjects. Get help with papers, essays, lab reports and other written assignments. Learn about brainstorming topics, organizing ideas, writing rough drafts, editing and proof reading. Reference materials and computers are available for use.

IMPORTANT TELEPHONE NUMBERS

Center for Student Success	(517) 796-8415
TTY	(517) 796-8417

LEARNING RESOURCES

ATKINSON LEARNING RESOURCES CENTER (LRC) - MAIN CAMPUS

The Atkinson Learning Resources Center (LRC) provides students and guests a balanced collection of books, magazines, videos, books-on-tape and other materials. Our online catalog is available over the Web using any computer with Internet access. The library shares its online catalog with the Jackson District Library (JDL). This partnership allows books and other materials to be requested from any JDL branch and sent directly to the JCC library.

The library offers access to many online databases for magazine, journal and newspaper citations. Several of these databases provide instant full-text access. Specialized databases are available covering such fields as nursing, education, science, psychology, business, and sociology. Reference librarians are always available to help our customers find the best resources for their needs.

The LRC offers an extensive interlibrary loan program. Articles, books, videos, etc. can be requested directly online or at the library.

The LRC provides microfilm and microfiche copiers, photocopiers, and a listening lab for using CDs, audiocassettes and videos.

The LRC is located on the first floor of Bert Walker Hall, main campus. For information call (517) 796-8622 or visit our web site at www.jccmi.edu/InfoTech/LRC/.

COMPUTER LABS

Need computer access? Drop in at JCC's Open Computer Lab with student consultants, up-to-date software, printers and scanner to help you:

- McDivitt Computer Lab (Windows)
- James McDivitt Hall, Room 101

Or check the hours posted each semester for drop-in access to these computer labs:

- Whiting Computer Lab (Windows) Justin Whiting Hall, Room 104
- Walker Computer Lab (Windows) Bert Walker Hall, Room 100D

OR TRY JCC'S EXTENSION CENTERS:

- JDC Computer Lab (Windows)
Robert L. Johnson Downtown Center, Room 206 or Room 107 Hours posted or call for current semester hours.
- Hillsdale Computer Lab (Windows)
LeTarte Center, Hillsdale, Lobby or Room 17.
If class not in progress
- Lenawee Computer Lab (Windows)
Lenawee Center, Room 115 Hours posted or call for current semester hours.

BOOKSTORE

The JCC Bookstore, owned and managed by Follett Company of Iowa, stocks textbooks, supplies and engineering drawing equipment, as well as classic and contemporary hardcover and paperback books. The Bookstore purchases used books for a limited time at the end of each semester and session.

Check the JCC Schedule of Classes each semester for hours. The main campus JCC Bookstore is located on the first floor of the George E. Potter Center next to the Frank Dove Commons. The JCC Lenawee, LeTarte Hillsdale and Johnson Downtown Centers each have on-site bookstore hours. For more information, call (517) 796-8440, or the specific JCC Center.

FOOD SERVICES - MAIN CAMPUS

Cafeteria food service is provided by ARAMark in the George E. Potter Center, Robert Snyder Dining Room on class days. To inquire about hours, call (517) 783-1521.

The McDivitt Cafe (James McDivitt Hall) provides light food service in the early evening, Monday through Thursday.

Vending machines are available in all classroom buildings and in the Potter Center's Frank Dove Commons.

TRANSPORTATION - MAIN CAMPUS

City buses run on class days from Jackson to the JCC main campus through the Jackson Transportation Authority. Schedules and rate information are available in the Student Center, Main Campus and in JCC's schedule of classes.

STUDENT LIFE & CAMPUS ACTIVITIES

Jackson Community College is committed to providing students with a comprehensive educational experience that offers excellent learning opportunities inside and outside the classroom. The Office of Student Life is charged with offering students a wide variety of social and educational opportunities to enhance their learning experience and connect with peers. From Student Parliament and Phi Theta Kappa to Intramural athletics and the lecture/concert series, Student Life at JCC provides you with the chance to get involved on campus, develop friendships and have fun.

Any group of students wishing to form a new organization or club should check with the Director of Student Life for assistance and guidelines on how to get started. All new student groups must meet specific guidelines set forth by the Student Senate and apply for official recognition before becoming an officially sanctioned campus organization.

THE OFFICE OF STUDENT LIFE

This office operates under the supervision of the Dean of Students and is located within the Office of Student Development at 210 George E. Potter Center. All inquiries regarding Student Life and campus activities should be made to the Director of Student Life at 517-796-8628 or Extension Center Director.

STUDENT ASSOCIATION

Every student is a member of the Student Association. With the support of faculty and administration, the association provides a democratic means for students to govern themselves. The association is governed by the Student Parliament.

STUDENT PARLIAMENT

This group is composed of interested students who submit petitions for election to the Director of Student Life. The parliament members act as official representatives of the student body in matters needing joint student and faculty or administration consideration. The Student Parliament annually allocates funds to student organizations and sets appropriate standards and guidelines to ensure that the activities of all organizations adhere to college policy and its mission. Please consult the Student Life Handbook to learn more about Student Parliament and its election process.

INTRAMURAL SPORTS

JCC offers a comprehensive intramural program including sports such as flag football, soccer, basketball and volleyball. Intramurals are open to any current JCC student, faculty or staff member. The Coordinator of Intramurals is located at the Victor Cuiss Fieldhouse and will be happy to answer any questions regarding Intramurals at JCC.

CLUB SPORTS

A club sport is a program available to all full-time students (minimum of 12 credit hours) at JCC. This program is initiated and funded solely by the full-time students or interested parties participating in the program. The emphasis of a club activity can be recreational, instructional, or competitive. Examples of club programs can be, but are not limited to; volleyball, hockey, basketball, etc. To help in the administrative and decision-making processes, all club activities are overseen by the Student Life Director at JCC. When participating in club activities, all members are representatives of JCC and abide by all rules and regulations set forth in the Agreement.

Hockey fans will be happy to know that JCC has its very own hockey team. The Golden Jets are full-time JCC students who compete regionally against teams such as Muskegon Community College, Wright State University and Hope College. Please contact the Director of Student Life for more details about the Golden Jets hockey team or questions regarding Club Sports at JCC.

STUDENT PUBLICATIONS

The Phoenix, a newspaper published by students, covers campus events and information of general interest to the campus community. Students also contribute to the publication Trillium and the collection of essays titled "The Best of JCC."

STUDENT HONORS

PHI THETA KAPPA

The international honor society of community colleges recognizes and encourages academic excellence, and is open to any JCC student who has completed 12 undergraduate semester credit hours with a cumulative grade point average of 3.5 or above. Phi Theta Kappa provides opportunities for fellowship, scholarships, leadership development, service learning and idea exchange among scholars.

KAPPA BETA DELTA

This international honor society has chapters at Associate degree-granting institutions that are accredited by the Association of Collegiate Business Schools and Programs. JCC's Chapter was started in 1998 and has recognized student academic excellence in the Accounting and Business programs. The membership is open to all students who have completed 15 credit hours (six of which must be in Accounting, Business or Finance) while maintaining at least a 3.2 or higher grade point average.

EXCELLENCE IN LEARNING AWARDS

These awards recognize and encourage student excellence not necessarily related to grades. The Excellence in Learning Awards, given annually in April, were established on the

premise that good grades are not the only indicator of successful learning.

DEAN'S LIST

Students are recognized each fall or winter semester for high academic achievement by being named to the Dean's List.

The minimum requirements for being named are:

- Full-time students who complete 12 or more credits during the semester with a semester GPA of 3.5 or higher.
- Part-time students, who after completing a total of 12, 24, 36, 48, 72, 84 and 96 credit hours, have earned a cumulative GPA of 3.5 or higher.

The College sends recognition letters to students' homes and notifies home newspapers.

OFFICE OF COLLEGE DIVERSITY

Jackson Community College and the Office of College Diversity welcomes and encourages people from all cultural backgrounds and walks of life to experience the dynamic learning environment that JCC provides the community.

Student diversity as defined by the JCC Office of College Diversity (is, but not limited to) race, color, creed, religion, national origin, gender, life styles and physical abilities. The College's efforts in developing a learning environment that embraces and promotes diversity and inclusion is a valuable indication of its commitment to providing quality educational opportunities to the community.

The Office of College Diversity is responsible for monitoring, developing, and implementing programs and activities that will enrich the academic process and social experience at JCC. The office is responsible for motivating and directing the college toward institutionalizing a systematic process that embraces and promotes the principles of diversity and inclusion.

The Director of College Diversity will provide leadership to the college community by monitoring, implementing, and advancing employee-training programs and events focused on diversity awareness and inclusion. The director will utilize the resources of the office to monitor, support, and develop opportunities for the college to participate as an active member in the greater Jackson, Hillsdale and Lenawee communities.

COLLEGE INCENTIVE PROGRAM

The Office of College Diversity has been entrusted with the important responsibility of serving the needs of the College Incentive Program (CIP), formerly known as C.A.R.E. The program is committed to providing resources for improving postsecondary opportunities for CIP youth. Students that complete CIP will earn two years free college tuition at JCC in addition to obtaining valuable life skills that will enrich their educational journey.

For additional information of the Office of College Diversity or CIP, call (517) 796-8470.

FIELDHOUSE SERVICES

The staff and faculty welcome you as a currently registered student to use the Victor Cuiss Fieldhouse during open times. The facilities include an indoor jogging track (10 laps to the mile), three one-wall racquetball courts, two full-size basketball courts, two volleyball courts, lockers for men and women and adapted lockers and showers for students with disabilities. The Victor Cuiss Fieldhouse is open to all students through the intramural program and through classes in the Health and Physical Fitness Department.

WEIGHT TRAINING AND CONDITIONING CENTER

The Weight Training and Conditioning Center, located in the Fieldhouse, provides Cybex weight conditioning equipment and aerobic conditioning options. The facility is open to all students who register for a Personalized Fitness class.

BUSINESS & INDUSTRY DEVELOPMENT CENTER

BIDC is JCC's one-stop source for services that will help businesses meet their current and future workforce development challenges. The Center encompasses seven key service areas.

1. **Workforce Development:** Advocates a holistic, systems approach to business, beginning with the organization's commitment to learning, quality and excellence. Staff will work with business, industry, government, service, education and municipal organizations to help them achieve core competencies and learn how to:
 - Create strategic organizational alignment
 - Understand customer, employee and other stakeholder needs
 - Secure grants to leverage training dollars.
2. **Employment Services:** A partnership with South Central Michigan Works! to help coordinate employer services and outreach activities by:
 - Providing labor exchange information for employers and job seekers
 - Promoting training resources and providers to employer partners
 - Providing learning opportunities for job seekers
 - Assisting job seekers with job search activities
3. **Work Keys:** The tool for improving hiring decisions and reducing turnover, and improving employee satisfaction and productivity. JCC's Work Keys Center is nationally recognized and offers job analysis assistance, assessment and training for workers in all types of organizations. Developed by American College Testing, Inc., of Iowa City, Work Keys helps companies and individuals identify and learn the skills needed to fill specific jobs.
4. **Professional Development Center:** Offering a variety of customized on-site learning opportunities, the Center serves business, industry, local governments and nonprofit organizations. Services include HR leadership development, Internet learning options, on-site program development, and Continuing Education Units for the nursing and allied health professional. For more information, call (517) 796-8448.
5. **Traditional programs for college credit:** The Business and Industry Development Center also helps employees get college credit while they meet their workplace learning requirements, assisting employers with developing or expanding their tuition assistance program.

For more information about any of the services of BIDC, call (517) 796-8448.

MINORITY STUDENT SERVICES

JCC is committed to providing support services, assisting minority students in becoming and remaining successful college students. The director of the Office of College Diversity serves as a resource for minority students, provides referrals to the appropriate services and assists in the translation of the information obtained.

The director of the Office of College Diversity works with minority students to resolve student-related issues. Anyone seeking additional information regarding minority students may call (517) 796-8470.

CAMPUS CHILD CARE

Child care, operated by ABC Academy, is available 6 a.m. - 6 p.m. Monday - Friday all year on JCC's main campus. Preschool, kindergarten, infant and toddler care are offered. Admittance is prioritized to JCC students first, JCC employees next, and then the general public. For more information, (517) 768-9323.

ASSOCIATE DEGREE OPTIONS & REQUIREMENTS

JCC offers four associate degrees. Each degree includes general education classes as well as specific program courses. Students should select an associate degree based on their plan of study or career goal.

ASSOCIATE IN ARTS (AA), ASSOCIATE IN SCIENCE (AS)

Students intending to transfer to another college or university usually select one of these degree programs. Students choose from courses that prepare them for a variety of professions and academic disciplines. *Note: Students are not required to earn a degree prior to transferring.*

ASSOCIATE IN APPLIED SCIENCE (AAS)

This degree prepares students for entry into a technical or skilled occupational career immediately following JCC.

ASSOCIATE IN GENERAL STUDIES

This degree is for students who want to plan their own program of study not defined by a specific job or career. The degree's flexibility allows the creation of a unique learning experience, such as combining the student's JCC experience with other academic institutions or community organizations, to prepare for or create a specialized career option.

GRADUATION REQUIREMENTS

1. A minimum cumulative grade point average of 2.0 overall. (Some programs have additional grade and course requirements. Follow the guide sheet for your program and meet with an academic advisor for complete information.) **Important: only courses with a 2.0 or better will transfer to most four-year colleges and universities.**
2. Completion of specific courses in a degree.
3. A minimum of 60 credits.
4. A minimum of 12 credits earned at JCC, unless otherwise specified.
5. A completed Application for Graduation for an associate degree submitted by the deadline date to Registration and Records, located in the JCC Student Center, George E. Potter Center, or to JCC centers. Students have five academic years to apply for graduation from the time they complete their last course at JCC. See Graduation and

Commencement, page 20. Applications are available at all locations; official audits are processed by the Registrar's Office.

6. Completion of the degree requirements from any catalog of entry issued during continuous enrollment. Students, who are not continuously enrolled and have completed degree requirements, must meet the requirements of the catalog in effect at the time of graduation application. Students re-entering who have not completed degree requirements must follow catalog in effect at time of their re-entry date.
7. Coursework completed within a reasonable time period. This may require repeating certain essential courses, even though a passing grade was previously earned. An essential course involves material that affects skill development and successful performance and/or contains content likely to change significantly over time, as determined by appropriate academic departments.
8. A minimum of 12 additional credits, beyond those credits completed for one degree, are required to earn a second associate's degree. Two degrees are not to be conferred in the same graduation period.

CERTIFICATE REQUIREMENTS

1. A minimum cumulative grade point average of 2.0 overall. (Some programs have additional grade and course requirements. Follow the guide sheet for your program and meet with an academic advisor for complete information.) **Important: only courses with a 2.0 or better will transfer to most four-year colleges and universities.**
2. Completion of specific courses in a certificate.
3. A minimum of 30 credits.
4. A minimum of 12 credits earned at JCC.
5. A completed Application for Graduation for a certificate submitted by the deadline date to Registration and Records, located in the JCC Student Center, Potter Center, main campus or to any JCC Center. Students have five academic years to apply for graduation from the time they completed their last course at JCC. See Graduation and Commencement, Applications are available at all locations, or the JCC website, however, official audits are processed by the Registrar's Office.

6. Completion of the certificate requirements from any catalog of entry during continuous enrollment. Students, who are not continuously enrolled and have completed certificate requirements, must meet the requirements of the catalog in effect at the time of graduation application. Students re-entering who have not completed the certificate requirements must follow the catalog in effect at the time of their re-entry date.
7. Coursework completed within a reasonable time period. This may require repeating certain essential courses, even though a passing grade was previously earned. An essential course involves material that affects skill development and successful performance and/or contains content that is likely to significantly change over time, as determined by appropriate academic departments.
8. A minimum of six additional hours, beyond those credits completed for one certificate, are required to earn a second certificate. Two certificates are not be conferred in the same graduation period.

SKILL SET CREDENTIALS

JCC offers "Skill Set Credentials" that are a coordinated set of courses whose purpose is to enable students to quickly achieve a specific occupational goal. Each of these credentials will:

- 1) require no fewer than 12 and no more than 28 credit hours;
- 2) provide a coherent set of skills and knowledge of benefit to students within specific career areas;
- 3) serve as building blocks toward certificates or associate degrees;
- 4) require students to have no developmental education holds or have special permission of the appropriate academic department.

GENERAL EDUCATION PHILOSOPHY — a message to students from the JCC faculty

General education promotes essential skills and understandings that collectively define the educated person; it is the centerpiece of all degree and certificate programs at JCC. The completion of general education by associate degree candidates and other students is consistent with the College's mission. The general education requirement is designed to ensure breadth of knowledge and to promote intellectual inquiry among all students, regardless of their area of study.

JCC faculty want students to observe, to identify ideas, issues, problems. We want students to evaluate and analyze what they see - by historical perspective, by scientific evidence, by consideration of values, by articulating what is seen within a community of learners. We want students to apply their understanding of these processes to new problems and to think critically. Most important, we want them to become curious and excited to discover and wonder, to reflect and

create. These are common human experiences we designed general education to foster.

JCC has identified two strategies to help students achieve the goals established by this philosophy of general education. Because JCC's vision includes a variety of educational, cultural and economic goals, the general education requirements involve both traditional intellectual exploration and practical skill development.

The first strategy for reaching these goals, traditional intellectual exploration, is accomplished through the completion of 17 credits of coursework in the following subject areas:

English	3 credits
Mathematics	3 credits
Science	4 credits
Social Science	3 credits
Humanities	3 credits
Health/Physical Fitness	1 credit

Specific courses needed in each of these categories are outlined in the program of study.

The second strategy, development of practical skills, is guided by the associate degree outcomes (ADOs). These are the skills which you should possess upon graduation from JCC:

HIGHEST PRIORITY SKILLS

1. The ability to communicate clearly, concisely, and intelligibly, using writing/oral skills.
2. The ability to comprehend and use information including written and oral forms.
3. Computational skills and understanding appropriate to the program of study.
4. Critical thinking and problem-solving.
5. Working productively with others.
6. Scientific reasoning.
7. Facility in the use of computers and other technologies appropriate to the program of study.
8. An understanding of wellness and the relationship between life-style choices and the quality of life.

TRANSCENDENT UNDERSTANDINGS

9. An understanding of social, political, and economic systems.

10. An understanding of human behavior.
11. A knowledge of science and technology.
12. An appreciation of the visual and performing arts.
13. An international perspective and the interdependency of all peoples and nations.
14. An understanding of, and appreciation for, our multi-ethnic and multi-cultural society.
15. An historical perspective. Both strategies are used in designing each program of study. Students fulfill the requirements as they proceed through the courses in each program.

SUBSTITUTIONS & WAIVERS FOR GENERAL EDUCATION REQUIREMENTS

Students who encounter hardships with required general education courses while pursuing a planned educational program may request consideration of alternative courses through a substitution and/or waiver process. Each request must be reviewed and recommended by the department chair of the course under review and approved by the academic dean. Substitution and waiver guidelines and forms are available from department chairs, advisors and the registrar's office.

STUDENT ASSESSMENT AT JCC

Assessment is a vital part of the academic life at JCC. The purpose of assessment is to measure student progress in the knowledge, skills and attitudes they exhibit from their studies. Assessment is conducted during class time, at the conclusion of programs of study, and at important stages of the academic cycle on a year by year basis.

Students are expected to complete a variety of assessments during their college career. These include course examinations, portfolios, attitude surveys, journals and demonstrations of skills used in occupational fields. A standardized test is administered in selected classes to measure overall student success in the achievement of basic foundational skills. Other assessments are made after students leave JCC that help faculty know the long-range effects of their teaching on student employment and the success of students who transfer to other colleges and universities.

Teachers identify course learning objectives and communicate them to students in their course syllabi, in classroom materials, or in teacher-led discussions about course goals. Learning objectives are closely aligned with the Associate Degree Outcomes. Feedback from student

performance on the learning objectives provides faculty with an assessment of the teaching and learning that occurs.

ACADEMIC SKILLS REQUIREMENTS

The associate degree and certificate requirements at JCC include proficiency in the academic skills of reading and writing. Similarly, associate degrees and most certificates include proficiency in mathematics. To ensure development of students' abilities in these skills, the College offers an academic skills development program.

The first phase of the program occurs upon entry to the College when students' competencies are assessed via ACT scores and/or College-administered placement assessments. Students with an ACT composite score of 18 and mathematics score of 18 are exempt from placement assessments and are deemed ready to enter all college-level courses. Students with prior successful college coursework may also be exempt. JCC accepts recent Course Placement scores from other Michigan colleges.

Writing: All JCC students seeking a degree are required to pass the college-level writing course, ENG 131: Writing Experience. Upon completion of the writing placement assessment, students whose results indicate a need for further development in writing must enroll in ENG 101: Introduction to Writing and successfully complete the writing post-assessment before proceeding to the required college-level writing course.

All JCC students seeking a certificate are required to demonstrate proficiency in writing. To demonstrate proficiency, students must successfully complete the writing placement assessment. If the assessment indicates a need for further development in writing, students must enroll in ENG 101: Introduction to Writing and successfully complete the writing post-assessment. In addition, some certificates require students to pass the college-level writing course, ENG 131: Writing Experience.

Reading: All JCC students obtaining a degree or certificate are required to demonstrate proficiency in reading. Upon completion of the reading placement assessment students whose results indicate a need for further development in reading must enroll in ENG 109: Reading Essentials or ENG 110: College Reading.

Mathematics: All JCC students seeking an associate in arts, associate in science or associate in general studies degree are required to pass a mathematics course best suited to their program of study. Upon completion of the mathematics placement assessment, students whose results indicate a need for further development in mathematics must enroll in MTH 110: Pre-Algebra and complete the course with at least a 2.0 grade. Additional mathematics work beyond MTH 110 may be required for completion of the degree.

Most JCC students seeking an associate in applied science degree are required to pass a mathematics course, and all are required to demonstrate proficiency in mathematics. Upon completion of the mathematics placement assessment, students whose results indicate a need for further development in mathematics must enroll in MTH 110: Pre Algebra and complete the course with a 2.0 grade. Additional mathematics work beyond MTH 110 may be required for completion of some degrees.

Some JCC students obtaining a certificate are required to pass a mathematics course and/or demonstrate proficiency in mathematics, and all are required to complete the mathematics placement assessment. If the certificate requires demonstration of proficiency of mathematics and the student's results indicate a need for further development in mathematics, the student must enroll in MTH 110: Pre Algebra and complete the course with a 2.0 grade. If the certificate does not require demonstration of proficiency in mathematics, no further mathematics work is required.

Guidelines: ENG 101, ENG 102, ENG 109, ENG 110, and MTH 110 carry academic credit and grades earned are included in calculating the student's grade point average. The credits for these courses, however, constitute additional graduation requirements beyond the total number of credits required for an associate in arts (AA), associate in science (AS), and most associate in applied science (AAS) degrees.

ASSOCIATE IN ARTS

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12

NOTE: Only courses with a 2.0 or better transfer to most four-year colleges and universities. To complete the MACRAO Articulation Agreement, students must plan their courses carefully. Completion of the associate in arts degree does NOT guarantee the MACRAO designation.

This degree is designed for students who plan to transfer to a four-year college or university to pursue a bachelor's degree. It is selected by students planning to pursue a career in such fields as business, education, psychology and social work.

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

Choose one of the following:

MTH 111 Foundations of Mathematics	3
------------------------------------	---

MTH 131 Intermediate Algebra	4
MTH 133 Introduction to Probability and Statistics	3
MTH 140 Precalculus	5
MTH 151 Analytic Geometry and Calculus I	4

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy and Physiology	5
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 Gen. Inorganic Chemistry w/ Analysis	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 251 Modern University Physics I	5

SOCIAL SCIENCE — (3 credits)

Choose one of the following:

ANT 131 Introduction to Anthropology	3
CRJ 101 Criminal Law	3
CRJ 104 Criminal Justice Psychology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 120 Human Relations for Corrections	3
CRJ 127 Corrections Law	3
ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
GEO 131 Physical Geography	3
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization, 1555 - Present	4
HIS 231 Dev. of the U.S. through the Civil War	3
HIS 232 Dev. of the U.S. from the Civil War	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
PSY 152 Social Psychology	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 236* Women in a Changing Society	3

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236* Women in a Changing Society	3
ENG 246 Short Story and Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	3
MUS 152 Music Theory II	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH AND FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 268 Advanced Weight Training	2
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

**Cannot be double-counted: prefix chosen at registration cannot be changed.*

ADDITIONAL DEGREE REQUIREMENTS — (19 credits)**WRITTEN AND ORAL COMMUNICATION— (3 credits)**

ENG 132 Writing Experience	3
----------------------------	---

NATURAL SCIENCE — (4 credits)

(Different discipline than taken in general education)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy	5
BIO 220 Microbiology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4

CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 Gen. Inorganic Chemistry w/ Analysis	5
CEM 241 Organic Chemistry	5
CEM 242 Organic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 232 College Physics II	4
PHY 251 Modern University Physics I	5
PHY 252 Modern University Physics II	5

SOCIAL SCIENCE — (6 credits)

(At least one course must be from different discipline than taken in general education)

Choose two of the following:

ANT 131 Cultural Anthropology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 117 Criminology	3
ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
GEO 131 Physical Geography	3
GEO 132 World Regions	3
GEO 220 Weather and Climate	3
GEO 232 Geography of U.S. and Canada	3
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	3
HIS 132 Western Civilization 1555 to Present	4
HIS 231 Dev. of the U.S. through the Civil War	3
HIS 232 Dev. of the U.S. from the Civil War	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	3
PSY 152 Social Psychology	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
PSY 290 Human Sexuality	3
SOC 117 Criminology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 235 Minority Groups in America	3
SOC 236* Women in a Changing Society	3
SOC 251 Modern Social Problems	3

HUMANITIES — (6 credits)

(At least one course must be from different discipline than taken in general education.)

Choose two of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3

ENG 236* Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature - 19th Century	3
ENG 256 American Lit. of the 20th Century	3
ENG 257 World Literature I	3
FRN 131 Elementary French	3
FRN 132 Elementary French	4
RN 231 Intermediate French	4
FRN 232 Intermediate French	4
GER 131 Elementary German	4
GER 132 Elementary German	4
GER 231 Intermediate German	4
GER 232 Intermediate German	4
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization 1555 to Present	4
HIS 231 Dev. of the US Through the Civil War	3
HIS 232 Dev. of the US from the Civil War	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
SPN 131 Elementary Spanish	4
SPN 132 Elementary Spanish	4
SPN 231 Intermediate Spanish	4
SPN 232 Intermediate Spanish	4
THR 116 Introduction to Theatre	3

* Courses cannot be counted towards both general education and additional degree requirements

PROGRAM REQUIREMENTS

Additional courses** so that total degree equals 60 credits:
Plan to visit an academic advisor to obtain a guide sheet and/or discuss requirements for selected program of study. Students are encouraged to choose courses that transfer as equivalent credit to four-year colleges and universities. Students are responsible to see that courses taken meet the requirements for their chosen program of study.

**Additional courses exclude continuing education courses (prefix CED, CEU, CFO, CSS), classes offered through JCC's workforce training programs (prefixes JTI, PDI), and ENG 101, 102, 109, 110, MTH 090, 100, and 110 and MTT 009.

If the transfer college or university of your choice is a MACRAO signator, it is recommended that you complete the

requirements of The MACRAO Articulation Agreement (see page 40).

ASSOCIATE IN SCIENCE

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12

NOTE: Only courses with a 2.0 or better transfer to most four-year colleges and universities. To complete the MACRAO Articulation Agreement, students need to plan their courses carefully. Completion of the associate in science degree does NOT guarantee the MACRAO designation.

This degree is designed for students who plan to transfer to a four-year college or university to pursue a bachelor's degree. It is selected by students planning to pursue a career in engineering, medicine health sciences and other science-related professions.

GENERAL EDUCATION REQUIREMENTS — (18 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (4 credits)

Choose one of the following:

MTH 140 Precalculus	5
MTH 151 Analytic Geometry and Calculus I	4

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy	5
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 Gen. Inorganic Chemistry w/ Analysis	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 251 Modern University Physics I	5

SOCIAL SCIENCE— (3 credits)**Choose one of the following:**

ANT 131 Cultural Anthropology	3
CRJ 101 Criminal Law	3
CRJ 104 Criminal Justice Psychology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 120 Human Relations for Corrections	3
CRJ 127 Corrections Law	3
ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
GEO 131 Physical Geography	3
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization, 1555 to Present	4
HIS 231 Dev. of the U.S. through the Civil War	3
HIS 232 Dev. of the U.S. from the Civil War	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
PSY 152 Social Psychology	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 236* Women in a Changing Society	3

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236* Women in a Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

**Cannot be double-counted; prefix chosen at registration cannot be changed.*

HEALTH AND FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 268 Advanced Weight Training	2
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

ADDITIONAL DEGREE REQUIREMENTS (19 Credits)**WRITTEN AND ORAL COMMUNICATION — (3 credits)**

ENG 132 Writing Experience	3
----------------------------	---

NATURAL SCIENCE — (16 credits)

(At least one course must be from different discipline than taken in general education.)

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy and Physiology	5
BIO 220 Microbiology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 Gen Inorganic Chemistry w/ Analysis	5
CEM 241 Organic Chemistry	5
CEM 242 Organic Chemistry	5
GEL 160 Introduction to Geology	4
MTH 151 Calculus I	4
MTH 154 Calculus II	5
MTH 251 Calculus III	4
MTH 254 Differential Equations	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 232 College Physics II	4
PHY 251 Modern University Physics I	5
PHY 252 Modern University Physics II	5

Courses cannot be counted towards both general education and additional degree requirements.

PROGRAM REQUIREMENTS

Additional courses** so that total degree equals 60 credits:
Plan to visit an academic advisor to obtain a guidesheet and/or to discuss requirements for your selected program of study.
Students are encouraged to choose courses that transfer as equivalent credit to four-year colleges and universities. Students

are responsible to see that courses taken meet the requirements for their chosen program of study.

****Additional courses exclude continuing education courses (prefix CED, CEU, CFO, CSS), classes offered through JCC's workforce training programs (prefixes JTI, PDI), and ENG 101, 102, 109, 110, and MTH 090, 100, 110, 120.**

ASSOCIATE IN GENERAL STUDIES

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12

NOTE: Only courses with a 2.0 or better transfer to most four-year colleges and universities. If students want to complete the MACRAO Articulation Agreement, they need to plan their courses carefully. Completion of the associate in general studies degree does not guarantee the MACRAO designation.

This degree is adapted to a student's needs, interests and capabilities.

GENERAL EDUCATION REQUIREMENTS (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

Choose one of the following:

MTH 111 Foundations of Mathematics	3
MTH 112 Business Math	3
MTH 120 Beginning Algebra	4
MTH 131 Intermediate Algebra	4
MTH 133 Introduction to Probability & Statistics	3
MTH 140 Precalculus	5
MTH 151 Calculus I	4

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy and Physiology	5
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 Gen. Inorganic Chemistry w/ Analysis	5
GEL 160 Introduction to Geology	4

NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 251 Modern University Physics II	5

SOCIAL SCIENCE — (3 credits)

Choose one of the following:

ANT 131 Cultural Anthropology	3
CRJ 101 Criminal Law	3
CRJ 104 Criminal Justice Psychology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 120 Human Relations for Corrections	3
CRJ 127 Corrections Law	3
ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
GEO 131 Physical Geography	3
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization 1555 to Present	4
HIS 231 Dev. of the U.S. through the Civil War	3
HIS 232 Dev. of the U.S. from the Civil War	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
PSY 152 Social Psychology	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 236* Women in a Changing Society	3

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236* Women in a Changing Society	3
ENG 246 Short Story and Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature - 19th Century	3
ENG 256 American Lit. of the 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3

PHL 232 Logic	3
THR 116 Introduction to Theatre	3

**Cannot be double-counted: prefix chosen at registration cannot be changed.*

HEALTH AND FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 268 Advanced Weight Training	2
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

ADDITIONAL DEGREE REQUIREMENTS (9 credits)

WRITTEN AND ORAL COMMUNICATION — (3 credits)

Choose one of the following:

ENG 132 Writing Experience	3
ENG 232 Technical and Business Writing	3
SPH 231 Communication Fundamentals	3

Total of 6 credits from two of the three following areas:

Natural Science, Social Science and Humanities.

NATURAL SCIENCE

(Different discipline than taken in general education)

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy and Physiology	5
BIO 220 Microbiology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 Gen. Inorganic Chemistry w/ Analysis	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 232 College Physics II	4
PHY 251 Modern University Physics I	5
PHY 252 Modern University Physics II	5

SOCIAL SCIENCE

(Different discipline than taken in general education)

ANT 131 Cultural Anthropology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 117 Criminology	3

ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
GEO 131 Physical Geography	3
GEO 132 World Regions	3
GEO 220 Weather and Climate	3
GEO 232 Geography of U.S. and Canada	3
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization, 1555 to Present	4
HIS 231 Dev. of the U.S. Through the Civil War	3
HIS 232 Dev. of the U.S. from the Civil War	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
PSY 152 Social Psychology	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
PSY 290 Human Sexuality	3
SOC 117 Criminology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 235 Minority Groups in America	3
SOC 236* Women in a Changing Society	3
SOC 251 Modern Social Problems	3

HUMANITIES

(At least one course must be from different discipline than taken in general education)

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236* Women in a Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry & Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature -19th Century	3
ENG 256 American Lit. of the 20th Century	3
ENG 257 World Literature I	3
FRN 131 Elementary French I	4
FRN 132 Elementary French II	4
FRN 231 Intermediate French I	4
FRN 232 Intermediate French II	4
GER 131 Elementary German	4
GER 132 Elementary German	4
GER 231 Intermediate German	4
GER 232 Intermediate German	4
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization 1555 to Present	4
HIS 231 Dev. of U.S. Through the Civil War	3
HIS 232 Dev. of the U.S. from the Civil War	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3

MUS 131 Understanding Music	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
SPN 131 Elementary Spanish I	4
SPN 132 Elementary Spanish II	4
SPN 231 Intermediate Spanish I	4
SPN 232 Intermediate Spanish II	4
THR 116 Introduction to Theatre	3

Courses cannot be counted toward both general education and additional degree requirements.

PROGRAM REQUIREMENTS

Additional courses** so that total degree equals 60 credits:
Plan to see an academic advisor to discuss requirements for your selected program of study.

***Additional courses exclude continuing education courses (prefix CED, CEU, CFO, CSS) or classes offered through JCC's workforce training programs (prefixes JTI, PDI).*

ASSOCIATE IN APPLIED SCIENCE

This degree is recommended for students who plan to enter a specific occupation upon graduation from JCC.

DEGREE, ELECTIVE & RELATED REQUIREMENTS

Plan to see an academic advisor to obtain a guide sheet and/or to discuss requirements for your selected program of study. Degree requirements are also available on our web page.

IMPORTANT INFORMATION FOR TRANSFER STUDENTS

You may be able to earn as much as half your bachelor's degree program (freshmen and sophomore years) at JCC. A bachelor's degree at most four-year colleges and universities requires 124 semester credits hours, and most colleges accept 60-64 credits from JCC. Some allow students to transfer more credits but still require about 60 hours to be taken at their institution.

You can decide whether or not to earn an associate degree from JCC before transferring. Transfer students who do wish to earn a degree usually pursue an associate in arts or an associate in science. Colleges with completion or fast-track degree programs for working adults may allow students to transfer all the credits earned from an associate in applied science degree. Others may accept up to 90 credits earned at JCC and require an additional 30 credit hours. In other programs, it is to the students advantage to complete the MACRAO Articulation Agreement (see page 40).

Earning a degree from JCC doesn't automatically qualify students to enter as a junior at the transfer institution. Four-year institutions reserve the right to evaluate each course completed at JCC for transfer credit.

The Transferability of Courses Depends On:

- the intended transfer college,
- the program of study, i.e., the major and/or minor(s),
- the grade received in the JCC course (2.0 is minimum acceptable grade point),
- whether or not the transfer college has an equivalent course,
- and the level of the course (e.g. an intermediate algebra course may be acceptable for one program, but not for others that require higher levels of mathematics).

Students are encouraged to keep the syllabi and course materials (including quizzes/tests, notes from courses, and names/authors of texts) of all courses they intend to transfer.

Transfer courses are formally articulated with about 20 four-year colleges and universities and recognized by other colleges and universities throughout the United States.

TOOLS TO HELP TRANSFER STUDENTS

Each transfer institution has its own requirements for admission, majors, general education, second admit programs, and so on. Requirements are stated in the transfer college's catalog or you can go to the JCC website at www.jccmi.edu; go to Academics; go to Online Documents; go to Information for Transfer Students where you will see a listing of the four year universities and colleges with course equivalencies and how to navigate directly to the individual university or college of interest.

General guidelines are available to help students choose courses that transfer to their preferred college. JCC maintains course equivalency sheets that detail the transfer status of JCC courses to many other colleges and universities (available on JCC's main campus, in the racks located in the lobby of McDivitt Hall, from academic advisors and on the JCC website). Program guide sheets are available that list JCC courses that meet general education and specific program requirements at various senior institutions. Guide sheets are available in the Student Center on JCC's main campus or in the main office at the Lenawee, LeTarte Hillsdale or Johnson Downtown centers, or on the web at: www.jccmi.edu/Transfer/.

TRANSFER PROCEDURE - A CHECKLIST

Review the following checklist at least a year prior to transferring; JCC suggests starting in your first semester.

1. See a JCC academic advisor.
2. Decide the college to which you intend to transfer. Colleges vary in requirements.
3. Decide on a program of study or major. JCC academic advisors provide program guide sheets outlining which courses to take. Also, request a catalog from your intended transfer college.
4. Visit transfer colleges, and talk with staff and students.
5. Apply for transfer admission well in advance of the anticipated date of transfer. Applications are available from the transfer institution.
6. Request official transcripts of courses and grades to be mailed from each college or university you have attended to your intended transfer institution. Transcripts are only accepted if they are mailed directly by the college or university and have the official seal. Request JCC transcripts from the Records Office; there is no charge.
7. Complete the appropriate financial aid application materials. Financial assistance is not awarded until the student is accepted by the institution. Request financial aid transcripts from each previous institution attended, regardless of whether or not you ever applied for financial aid from that college or university. Request a JCC financial transcript from Student Financial Services; there is no charge.

SPECIAL NOTE ON FOREIGN LANGUAGE REQUIREMENTS

Some four-year colleges and universities require competency in a foreign language equivalent to two years of college study. Students transferring to an institution requiring competency in a foreign language should consider meeting this requirement before transferring.

SECOND ADMIT PROGRAMS

Some programs at four-year institutions require more than the general college admissions requirements. For instance, even though a student may get accepted by Michigan State University, he/she will need to fulfill additional requirements before being accepted into the College of Education. To find

out about entry standards and application deadlines, check with the specific academic department (e.g. education, business, engineering) at the transfer institution or check their college catalog.

PRE-PROFESSIONAL PROGRAMS

Students interested in pursuing curricula such as law, medicine, dentistry and other advanced degrees may choose to enroll in pre-professional programs at JCC (pre-law, pre-medical, pre-dental, etc.) Follow the sequence of courses recommended by the transfer institution.

Entrance tests required for professional degrees - GMAT, GRE, MCAT, LSAT and others - are usually taken prior to the senior year in college. JCC students should check on the availability of preparation coursework at the transfer institution.

MACRAO ARTICULATION AGREEMENT WITH COLLEGES & UNIVERSITIES

The Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) Articulation Agreement facilitates the transfer of students from community colleges to four-year colleges and universities in Michigan. The agreement ensures that students who have completed the requirements of the MACRAO Articulation Agreement as defined by JCC have satisfied the freshman and sophomore level general education requirements at other participating schools.

By carefully choosing courses, students may obtain an associate degree from JCC and complete The MACRAO Articulation Agreement. However, students do not need to obtain a degree to earn the MACRAO designation. If students meet all the requirements of the agreement, they should contact JCC Records Services and request the MACRAO designation on their transcripts.

The following colleges participate to some degree with JCC in the MACRAO Articulation Agreement:

Adrian College
 Albion College
 Baker College
 Calvin College
 Central Michigan University
 Cleary College
 Concordia College
 Davenport College
 Detroit College of Business
 Eastern Michigan University
 Ferris State University
 Grand Valley State University
 Lake Superior State University
 Lawrence Technological University
 Madonna College
 Marygrove College
 Michigan Technological University
 Northern Michigan University
 Northwood University
 Oakland University
 Olivet College
 Rochester College
 Saginaw Valley State University
 Siena Heights University
 Spring Arbor University
 St. Mary's College
 Western Michigan University

REQUIREMENTS OF THE MACRAO ARTICULATION AGREEMENT

Minimum grade 2.0 for each course

Note: This list reflects only current classes. The registrar's office maintains a historical listing of courses that are accepted as part of MACRAO.

ENGLISH COMPOSITION — (6 credits)

English (ENG) 131 and 132

NATURAL SCIENCE

(8 credits total from two disciplines; one must be laboratory science)

Biology (BIO) 131, 132, 151, 152, 155, 220

Chemistry (CEM) 121, 131, 132, 141, 142

Geology (GEL) 160

Mathematics (MTH) 133, 140, 151, 154, 251, 254

Natural Science (NSC) 131

Physics (PHY) 131, 151, 231, 232, 251, 252

SOCIAL SCIENCE

(8 credits total from two disciplines)

Anthropology (ANT) 131

Criminal Justice (CRJ) 111, 117

Economics (ECN) 231, 232

Geography (GEO) 131, 132

History (HIS) 120, 131, 132, 231, 232

Psychology (PSY) 140, 152, 245, 251, 252, 290

Political Science (PLS) 141

Sociology (SOC) 117, 152, 231, 235, 236, 251

HUMANITIES

(8 credits total from two disciplines)

Art (ART) 111, 112

English (ENG) 210, 236, 246, 247, 249, 252, 255, 256, 257

French (FRN) 131, 132, 231, 232

German (GER) 131, 132, 231, 232

History (HIS) 120, 131, 132, 231, 232

Humanities (HUM) 131

Music (MUS) 130, 131, 151, 152

Philosophy (PHL) 231, 232,

Spanish (SPN) 131, 132, 231, 232

Theatre (THR) 116

At JCC, academic areas are organized into six career pathways to address the variety of career and training options in related fields. Within each career pathway, students can choose between certificate and associate degree programs designed to provide skills for immediate employment or job advancement. Each career pathway also offers several transfer programs for students who plan to pursue advanced degrees at four-year colleges or universities.

Based on their career goals, JCC students can find a career pathway that matches their knowledge, skills and attributes. The six career pathways are:

- Arts & Communication
- Business, Management, Marketing & Technology
- Engineering/Manufacturing & Industrial Technology
- Health Sciences
- Human Services
- Natural Resources & Agriscience

ARTS & COMMUNICATION CAREER PATHWAY

This pathway includes careers related to the humanities and the performing, visual, literary and media arts. This career path may include careers in writing, journalism, web design, foreign language, radio and television broadcasting and public relations.

DEGREES/CERTIFICATES

Visual Communication

- Graphic Design Specialty
- Multimedia & Web Design Specialty

TRANSFER PROGRAMS IN THE ARTS & COMMUNICATION PATHWAY

The first two years of a student's college education usually consist of general education courses, introductory courses in a major and/or program of study and selected electives. Refer to pages 38-40 for additional information on transfer and MACRAO. Academic advisors will assist students in planning their transfer program. They can also provide transfer guide sheets indicating JCC courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included.

- Art
- English
- History
- Music
- Theatre

VISUAL COMMUNICATION/ GRAPHIC DESIGN — ASSOCIATE IN APPLIED SCIENCE

Minimum credits:	63
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO Agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

MTH 112 Business Mathematics	3
• or higher level mathematics course	

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

ECN 231 Macroeconomics	3
------------------------	---

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	2
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric-1400	3
ART 112 Art History: Renaissance-History	3
ENG 236 Women in a Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature	3
HUM 131 Cultural Connections	3

MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

RELATED BUSINESS REQUIREMENTS — (15 credits)

BUS 131 Introduction to Business	3
BUS 132 Advertising, Promotion and Public Relations	3
BUS 155 Human Relations in Business	3
ENG 232 Technical & Business Writing	3
ITE 101 Information Technology Education	3

GRAPHIC DESIGN CORE REQUIREMENTS — (34 credits)

ART 101 Two-Dimensional Design	3
• or ART 103 Drawing	3
• or ART 152 Painting & Composition	3
ITE 171 Desktop Publishing	3
ITE 211 Typography & Layout	3
ITE 245 Internship	1-6*
ITE 270 Graphic Creativity	1
ITE 271 Desktop Publishing II	3
ITE 272 Graphic Illustration	3
ITE 273 Graphic Imaging	3
ITE 274 Graphic Technology Applications	3
ITE 276 Practicum in Printing I	3
ITE 277 Practicum in Printing II	3

**Minimum required for this degree is three credits*

SAMPLE CURRICULUM FOR GRAPHIC DESIGN

First Year, Fall Semester

ART 101, 103 or 152, ENG 131, ITE 101, MTH 112 or higher

First Year, Winter Semester

BUS 131, ENG 232, ITE 171, Humanities Requirement

First Year, Spring Semester

ITE 270, Health & Physical Fitness Requirement

Second Year, Fall Semester

BUS 155, ITE 211, ITE 272, Science Requirement, ITE 276

Second Year, Winter Semester

BUS 132, ITE 271, ITE 273, ITE 277

Second Year, Spring Semester

ITE 245, ITE 274

VISUAL COMMUNICATION/ MULTIMEDIA & WEB DESIGN – ASSOCIATE IN APPLIED SCIENCE

Minimum credits:	62
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO Agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS (3 credits)

MTH 112 Business Mathematics	3
• or higher level mathematics course	

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

ECN 231 Macroeconomics	3
------------------------------	---

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric-1400	3
ART 112 Art History: Renaissance - History	3
ENG 236 Women in a Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3

MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

RELATED BUSINESS REQUIREMENTS — (15 credits)

BUS 131 Introduction to Business	3
BUS 132 Advertising, Promotion and Public Relations	3
BUS 155 Human Relations in Business	3
ENG 232 Technical & Business Writing	3
ITE 101 Information Technology Education	3

MULTIMEDIA & WEB DESIGN CORE REQUIREMENTS — (30 credits)

ART 201 Three-Dimensional Design	3
ITE 042 MS FrontPage Workshop	1
ITE 127 MS Access Comprehensive	3
ITE 160 HTML	2
ITE 161 Web Animation	3
ITE 162 Web Integration with Database	3
ITE 163 Web Programming	3
ITE 171 Desktop Publishing	3
ITE 272 Graphic Illustration	3
ITE 273 Graphic Imaging	3
ITE 275 Web Page Design	3

SAMPLE CURRICULUM FOR MULTIMEDIA AND WEB DESIGN

First Year, Fall Semester

ENG 131, ITE 042, ITE 101, ITE 160, Science Requirement

First Year, Winter Semester

ART 201, BUS 131, ITE 163, ITE 273, Humanities Requirement

First Year, Spring Semester

MTH 112 or higher level of math, Health & Physical Fitness Requirement

Second Year, Fall Semester

BUS 155, ENG 232, ITE 127, ITE 161, ITE 272

Second Year, Winter Semester

BUS 132, ECN 231, ITE 171

Second Year, Spring Semester

ITE 275, ITE 162

VISUAL COMMUNICATION/ GRAPHIC DESIGN — CERTIFICATE

Minimum credits:	40
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO Agreement:	No

GENERAL EDUCATION REQUIREMENTS — (9 credits)

ENG 131 Writing Experience	3
ITE 101 Information Technology Education	3
MTH 112 Business Mathematics	3
• or higher level mathematics course	

GRAPHIC DESIGN CORE REQUIREMENTS — (31 credits)

ART 101 Two-Dimensional Design	3
• or ART 103 Drawing	3
• or ART 152 Painting & Composition	3
ITE 171 Desktop Publishing	3
ITE 211 Typography & Layout	3
ITE 245 Internship	3
ITE 270 Graphic Creativity	1
ITE 271 Desktop Publishing II	3
ITE 272 Graphic Illustration	3
ITE 273 Graphic Imaging	3
ITE 274 Graphic Technology Applications	3
ITE 276 Practicum in Printing I	3
ITE 277 Practicum in Printing I	3

SAMPLE CURRICULUM FOR GRAPHIC DESIGN

Fall Semester

ART 101 or ART 103 or ART 152, ITE 101, ITE 171, ITE 211, ITE 272, ITE 276

Winter Semester

ENG 131, ITE 271, ITE 273, ITE 277, MTH 112 or higher level math

Spring Semester

ITE 245, ITE 270, ITE 274

VISUAL COMMUNICATION/ MULTIMEDIA AND WEB DESIGN — CERTIFICATE

Minimum credits:	39
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO Agreement:	No

GENERAL EDUCATION REQUIREMENTS — (9 credits)

ENG 131 Writing Experience	3
----------------------------------	---

ITE 101 Information Technology Education	3
MTH 112 Business Math	3
• or higher level mathematics course	

MULTIMEDIA & WEB DESIGN CORE

REQUIREMENTS — (30 credits)

ART 201 Three-Dimensional Design	3
ITE 042 MS FrontPage Workshop	1
ITE 127 MSAccess Comprehensive	3
ITE 160 HTML	2
ITE 161 Web Animation	3
ITE 162 Web Integration with Database	3
ITE 163 Web Programming	3
ITE 171 Desktop Publishing	3
ITE 272 Graphic Illustration	3
ITE 273 Graphic Imaging	3
ITE 275 Web Page Design	3

SAMPLE CURRICULUM FOR MULTIMEDIA AND WEB DESIGN

Fall Semester

ITE 042, ITE 101, ITE 127, ITE 160, ITE 171, ITE 272

Winter Semester

ART 201, ENG 131, ITE 161, ITE 163, ITE 273, MTH 112

Spring Semester

ITE 275, ITE 162

TRANSFER PROGRAMS

ART

Visual artists create art to communicate ideas, thoughts or feelings. They use a variety of methods: painting, sculpting or illustration and an assortment of materials including watercolors, acrylics, pastels, pencils, pen and ink, plaster, clay and computers. Visual artists' works may be realistic, stylized or abstract and may depict objects, people, nature or events. Sample curricula for a few popular transfer programs are included.

Admittance to a four-year college art program is highly competitive. Check with the transfer institution to determine the admittance process. During the first semester of your freshman year, check whether ART classes will transfer to meet requirements of the transfer institution.

Some transfer institutions grant studio art credit ONLY upon approval of a portfolio.

SAMPLE CURRICULUM FOR ART

First Year, Fall Semester

ART 101, ART 111, ENG 131, MTH 131 or 140*, MACRAO Science course

First Year, Winter Semester

ART 112, ART 201, ENG 132, MACRAO Science course, MACRAO Social Science course

Second Year, Fall Semester

ART 103, ART 152, MACRAO Social Science course, Non-art MACRAO Humanities course

Second Year, Winter Semester

ART 203, MACRAO Social Science course, Electives

**Check mathematics requirements at intended transfer institution.*

DANCE

Dancers use their bodies in a variety of ways to respond to social and political realities. Creative movement, awareness of the body in space and time and performance experience are excellent training for careers that demand poise and confidence in public presentations. During your first semester, check on the transfer status of DAN classes with the university of your choice.

At JCC, DAN courses are cross listed with HPF courses and fulfill the ADO requirements for wellness.

ENGLISH

Students who major or minor in English find work in a variety of fields. Careers such as writing, teaching, library science, editing and publishing are directly related to specific studies in English language and literature. English is an excellent Pre-Law major. Many transfer institutions require that English majors have proficiency in a foreign language. The level of this proficiency varies - some require third-semester proficiency but more require fourth-semester proficiency.

SAMPLE CURRICULUM FOR ENGLISH

First Year, Fall Semester

ENG 131, MTH 131 or MTH 140*, Foreign Language 131, MACRAO Science course

First Year, Winter Semester

ENG 132, ENG 246, Foreign Language 132, MACRAO Science course

First Year, Spring Semester

MACRAO Social Science courses

Second Year, Fall Semester

ENG 247, ENG 255, ENG 261, Foreign Language 231

Second Year, Winter Semester

ENG 252, ENG 256, Foreign Language 232, MACRAO Social Science course, SPH 231

**Check mathematics requirements of transfer institution.*

HISTORY

History examines the lives of people and the consequences of ideas. Study of the past reveals valuable achievements as well as dreadful mistakes, and in so doing helps us meet the unexpected challenges of our own day.

SAMPLE CURRICULUM FOR HISTORY**First Year, Fall Semester**

ENG 131, HIS 131, MTH 131 or MTH 140*, MACRAO Science course

First Year, Winter Semester

ENG 132, GEO 132, HIS 132, PHL 231, MACRAO Science course

Second Year, Fall Semester

ECN 231, HIS 231, PLS 141, Electives

Second Year, Winter Semester

ECN 232, HIS 232, Electives

**Check mathematics requirements of transfer institution.*

MUSIC

Many occupations include music, the most obvious being a vocalist or musical entertainer. Others include songwriting, music teacher, music therapist, conductor, music critic or music librarian. Some music majors work on the business side of the industry and become agents or store owners.

Music students have access to the College's incredible performing arts complex, the George E. Potter Center. Students who qualify can study and perform with the JCC Choir, Jackson Community Concert Band or Symphonic Music Orchestra. These provide valuable concert experiences as well as academic credit.

Admittance to a four-year college music program is highly competitive and requires an audition. It is recommended that students contact their intended transfer institution during their first year to schedule an audition time.

SAMPLE CURRICULUM FOR MUSIC**First Year, Fall Semester**

ENG 131, MTH 131 or MTH 140*, MACRAO Science course, MUS 103***, MUS 151**, MUS 167****, MUS 129, or 181, MUS 190

First Year, Winter Semester

ENG 132, MACRAO Science course, MUS 152**, MUS 168****, MUS 129, or MUS 181, MUS 190

Second Year, Fall Semester

MUS 130, MACRAO Social Science courses, Non-music MACRAO Humanities course, MUS 267****, MUS 129, or MUS 181, MUS 190

Second Year, Winter Semester

MUS 131, MACRAO Social Science course(s), MUS 268****, MUS 129, or MUS 181, MUS 190

**Check mathematics requirements of transfer institution.*

***May need to take test at transfer institution to receive credit.*

****Semesters required depend on amount of prior piano study.*

*****Vocalists can take MUS 123/124 instead.*

THEATRE

Theatre students have access to a world-class performing arts complex and learn from professionally experienced faculty. Program emphasis is on practical experience with requirements in studio and classroom work.

Career positions can include working as an actor, director, stage manager, set designer or in other theatre-related occupations.

SAMPLE CURRICULUM FOR THEATRE**First Year, Fall Semester**

ENG 131, MTH 131 or MTH 140*, THR 145, MACRAO Science course

First Year, Winter Semester

ENG 132, PSY 140, THR 146, MACRAO Science course

Second Year, Fall Semester

THR 116, MACRAO Social Science and Humanities courses

Second Year, Winter Semester

MACRAO Social Science and Humanities courses, Electives

**Check mathematics requirements of transfer institution.*

BUSINESS, MANAGEMENT, MARKETING & TECHNOLOGY CAREER PATHWAY

This pathway includes careers related to all aspects of business including accounting, business administration, finance, information processing and marketing. These may include advertising, entrepreneurship, sales, computer/information systems, human resources, office administration, economic and management and retailing.

DEGREES/CERTIFICATES:

- Accounting/Finance
- Business Administration
- Business Skills
- Management
- Marketing
- Computer Programming Specialist
- Microcomputer Applications Specialist
- Microsoft Office User Specialist
- Networking Specialist
- Office Automation Specialist

TRANSFER PROGRAMS

The first two years of a student's college education usually consists of general education courses, introductory courses in a major and/or program of study, and selected electives. See an academic advisor for a transfer guide sheet to the college/university of your choice. The guide sheet identifies JCC courses that transfer in your program of study. Refer to pages 38-40 for additional information on transfer and MACRAO.

Sample curricula for some transfer programs are:

- Associate in Arts - Business
- AAS: Accounting or Business Administration to Siena Heights University
- Transfer – Computer Science

ACCOUNTING/FINANCE — ASSOCIATE IN APPLIED SCIENCE

Accountants and auditors prepare, analyze and verify financial reports and taxes and monitor information systems that furnish this information to managers in business, industry and government.

The Accounting/Finance major prepares students for initial employment and develops competencies for those already in the field. Students develop skills in the posting and recording of financial data, use of computers, preparation of financial statements and reports, interpretation of financial information, and develop effective supervisory and communicative techniques and skills.

Typical job opportunities and places of employment are: junior accountant with public accounting firms, banks and other financial institutions, educational institutions and other profit and not-for-profit organizations.

Minimum credits:	63
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

MTH 120 Beginning Algebra or higher	3
-------------------------------------	---

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

Choose one of the following:

ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3

HUMANITIES — (3 credits)

Choose one of the following:

ART 112 Art History: Renaissance-Present	3
ENG 236 Women in a Changing Society	3
ENG 246 Short Story and Novels	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

BUSINESS RELATED REQUIREMENTS — (22 credits)

ACC 231 Principles of Accounting I	4
BUS 101 Principles of Marketing	3
BUS 131 Introduction to Business	3
BUS 135 Business Law I	3
BUS 234 Principles of Management	3
ENG 232 Technical and Business Writing	3
ITE 101 Information Technology Education	3

ACCOUNTING CORE REQUIREMENTS — (24 credits)

ACC 115 Payroll Accounting	2
ACC 145 Business Tax Accounting	3
ACC 232 Principles of Accounting II	4
ACC 234 Managerial Accounting	4
ACC 240 Intermediate Accounting	4
ACC 245 Internship	3
FIN 100 Introduction to Wall Street	1
FIN 210 Principles of Finance	3

ACCOUNTING/FINANCE — CERTIFICATE

This 30-hour program prepares students for bookkeeping and related occupations. Job opportunities exist for audit clerks, general accounting clerks, credit card clerks in hotels and restaurants, general ledger bookkeepers and many more. Learn to keep accounting records and compile reports using computers and calculators; prepare payrolls, tax reports; compute, type, and mail monthly statements, keep general ledgers, and perform many other accounting functions.

Minimum credits:	30
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (9 credits)

ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
MTH 120 Beginning Algebra	3
• or higher mathematics course	

ACCOUNTING/FINANCE CORE REQUIREMENTS — (20 credits)

ACC 115 Payroll Accounting	2
ACC 231 Principles of Accounting I	4
ACC 232 Principles of Accounting II	4
FIN 100 Introduction to Wall Street	1
FIN 210 Principles of Finance	3
ITE 101 Information Technology Education	3
ITE 130 Microsoft Excel	3

ELECTIVES

Select electives from courses in ACC, BUS, ECN, FIN, or ITE in order to meet 30 credits required for certificate.

BUSINESS ADMINISTRATION — ASSOCIATE IN APPLIED SCIENCE

This is a broad-based program of business studies. This program allows the student to customize a program of study that meets the specific employment and/or transfer needs of the student.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS — (3 credits)

MTH 112 Business Math	3
• or MTH 120 Beginning Algebra	4

SCIENCE — (4 credits)**Choose one of the following:**

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)**Choose one of the following:**

ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3

HUMANITIES — (3 credits)**Choose one of the following:**

ART 112 Art History: Renaissance-Present	3
ENG 236 Women in a Changing Society	3
ENG 246 Short Story and Novels	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

BUSINESS CORE REQUIREMENTS — (22 credits)**Choose from the following:**

ACC 216 Financial Accounting Concepts	4
or ACC 231 Principles of Accounting I	4
BUS 101 Principles of Marketing	3
BUS 131 Introduction to Business	3
BUS 135 Business Law I	3
BUS 234 Principles of Management	3
ENG 232 Business and Technical Writing	3
ITE 101 Information Technology Education	3

ELECTIVES — (21 credits)**Choose from the following:**

ACC 115 Payroll Accounting	2
ACC 211 General Accounting	4
ACC 145 Business Tax Accounting	3
ACC 232 Principles of Accounting II	4
ACC 234 Managerial Accounting	4
ACC 240 Intermediate Accounting	4
BUS 105 Customer Service	3
BUS 132 Advertising & Promotion	3
BUS 145 Business Law II	3
BUS 150 Leadership	3
BUS 155 Human Relations in Business	3
BUS 200 E-Commerce	3
BUS 223 Human Resource Management	3
BUS 233 Sales	3
BUS 235 Retailing	3

BUS 236 Small Business Management	3
BUS 243 Business Problems & Solutions	3
BUS 245 Internship	3
ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
FIN 101 Personal Finance	3
FIN 102 Introduction to Wall Street II	1

SAMPLE CURRICULUM FOR BUSINESS**ADMINISTRATION****First Year, Fall Semester**

ENG 131, MTH 112 or MTH 120, BUS 131, ITE 101

First Year, Winter Semester

Science, HPF, BUS 101, 2 Business electives

Second Year, Fall Semester

ACC 231 or ACC 216, Humanities, BUS 234, 2 Business electives

Second Year, Winter Semester

BUS 135, ECN 231 or ECN 232, Business electives up to 60 credits

**BUSINESS ADMINISTRATION —
CERTIFICATE**

The Business Administration Certificate will develop your awareness in all of the functional aspects of the business world where you can use your ability to get along with people, develop your leadership potential, and use your oral and written communication skills. Jobs may be found in insurance companies, hospitals and health-care facilities, educational institutions, transportation and distribution centers, government agencies and manufacturing firms in a variety of departments. This program also consists of the foundational courses you need should you want to pursue degree in the future.

Minimum credits:	30
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (9 credits)

ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
MTH 112 Business Math or MTH 120 or higher	3

BUSINESS CORE REQUIREMENTS — (19 credits)

ACC 216 Financial Accounting Concepts	4
• or ACC 231 Principles of Accounting	4
BUS 101 Principles of Marketing	3

BUS 131 Introduction to Business	3
BUS 135 Business Law I	3
BUS 234 Principles of Management	3
ITE 101 Information Technology Education	3

ELECTIVES

Select electives from classes in ACC, BUS, ECN, FIN or ITE in order to meet 30 credits required for certificate.

SAMPLE CURRICULUM FOR BUSINESS ADMINISTRATION CERTIFICATE

First Year, Fall Semester

ENG 131, MTH 112 or MTH 120, BUS 131, ITE 101

First Year, Winter Semester

ENG 232, BUS 101, BUS 135, BUS 234, electives to equal 30 credits

SKILL SET CREDENTIALS

ADVANCED CERTIFICATION – MANAGEMENT (16 credits)

These credentials prepare students for management, leadership, and supervisory positions in any business or industry. It is designed for students who already possess an A.A., A.A.S., B.A., or B.S. degree or 10 years work experience. Students acquire skills in leadership, human behavior, problem solving and critical thinking. Students learn to effectively manage human resources and develop solutions to complex management problems.

BUS 150 Leadership	3
BUS 223 Human Resource Management	3
BUS 243 Business Problems and Solutions	3
PSY 140 Intro to Psychology	4
PSY 151/ SOC 152 Social Psychology	3

SKILL SET CREDENTIAL – E-COMMERCE (16 credits)

This credential is designed to study the blending of business and technology using the Internet to achieve an organization's mission. Students will study and apply uses of hardware, software, and communication as tools of the Internet and develop business strategies integrating these tools.

BUS 132 Advertising and Promotion	3
BUS 200 E-Commerce	3
ITE 101 Information Technology Education	3
ITE 042 Microsoft Front Page	1
ITE 273 Graphic Imaging	3
ITE 275 Web Page Design	3

SKILL SET CREDENTIAL-

ENTREPRENEURSHIP (17 credits)

Do you have what it takes to own your own business? Discover that, as well as sources of financing, forms of legal ownership, niche marketing, and most importantly, how to avoid business failure.

ACC 130 QuickBooks	2
BUS 101 Marketing	3
BUS 132 Advertising & Promotion	3
BUS 200 E-Commerce	3
BUS 233 Sales	3
BUS 236 Small Business Management	3

SKILL SET CREDENTIAL – FINANCIAL SERVICES (14 credits)

This credential prepares students for work in the banking and financial services industries. Job opportunities could include introductory positions with banks (teller or customer service representative), trust offices, pension and retirement planning firms, personal financial planning groups and investment brokerage houses (clerk or customer service representative.) Students acquire skills in customer relations and financial problem solving. Students learn about financial markets and economic issues.

BUS 105 Customer Service	3
BUS 155 Human Relations	3
ECN 232 Microeconomics	3
FIN 100 Intro to Wall Street	1
FIN 101 Personal Finance	3
FIN 102 Wall Street 2	1

MANAGEMENT — CERTIFICATE

People with management skills are employed in every industry in the career world. This program will build on your natural ability to get along with people and help develop your leadership potential. The focus in this program is on the principles, theories, and application of planning, organizing, leading, staffing, and evaluating results. Having good communication skills and the ability to make reliable decisions without supervision are essential to beginning a career in management.

Minimum credits:	30
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS —(9 credits)

ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3

MTH 112 Business Math	3
• or MTH 120* Beginning Algebra or higher	3

MANAGEMENT CORE REQUIREMENTS — (16 credits)

ACC 216 General Accounting	4
• or ACC 231* Principles of Accounting I	4
BUS 131 Introduction to Business	3
BUS 150 Leadership	3
• or BUS 155 Human Relations	3
BUS 223 Human Resource Management	3
• or BUS 105 Customer Service	3
BUS 234 Principles of Management	3

ELECTIVES

Select electives from classes in ACC, BUS, ECN, FIN, ITE, SPH in order to meet 30 credits required for certificate.

**MTH 120 or equivalent is a requirement for ACC 231.*

SAMPLE CURRICULUM FOR MANAGEMENT CERTIFICATE

First Year, Fall Semester

ENG 131, MTH 112 or MTH 120, BUS 131, BUS 150 or BUS 155

First Year, Winter Semester

ENG 232, BUS 234, BUS 223 or BUS 105, electives to equal 30 credits

MARKETING — CERTIFICATE

Individuals considering a marketing career should be good listeners, enjoy current events and look forward to the business challenges that come with changing cultural habits. Also important are the abilities to think creatively, communicate effectively, and manage time wisely to meet deadlines.

Minimum credits:	30
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (9 credits)

ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
MTH 112 Business Math	3
• or MTH 120 or higher	3

MARKETING CORE REQUIREMENTS — (18 credits)

BUS 101 Principles of Marketing	3
BUS 132 Advertising & Promotion	3
BUS 155 Human Relations	3
BUS 200 E-Commerce	3

BUS 233 Sales	3
BUS 235 Retailing	3

ELECTIVES

Select electives from classes in ACC, BUS, ECN, FIN, or ITE in order to meet 30 credits required for certificate.

SAMPLE CURRICULUM FOR MARKETING CERTIFICATE

First Year, Fall Semester

ENG 131, MTH 112 or MTH 120, BUS 101, BUS 155, BUS 200

First Year, Winter Semester

ENG 232, BUS 132, BUS 233 or BUS 235, electives to equal 30 credits

A+/NETWORK+ SKILL SET CREDENTIAL — (COMPUTER SERVICE TECHNICIAN)

The A+ /Network+ Credential is designed to prepare students to work as a computer service professional. A+ /Network+ Credential is the recognized industry standard for computer service technicians. This Credential is the "journeyman's card" for professionals in microcomputer maintenance.

The A+ /Network+ Credential validates technical competency in networking administration and support. Those holding A+ /Network+ Credential should demonstrate critical knowledge of media and topologies, protocols and standards, network implementation and network support.

Comp TIA (Computing Technology Industry Association) is the certifying agent, a non-profit industry group which determines competencies. Comp TIA assures the quality of those who successfully pass the A+ and Network+ Certification test. Jackson Community College provides this program to prepare students to pass both tests. The test is administered by Comp TIA's agent.

Minimum credits:	17
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

ITE 101 Information Technology Education	3
ITE 233 A+ Hardware Component	3
ITE 235 A+ O/S Component	3
ITE 237 A+ Certification Exam Preparation	1
ITE 239 Network +Networking Fundamentals Component ..	3
ITE 241 Network+ Protocols	3
ITE 243 Network+ Certification Exam Preparation	1

SUGGESTED COURSE SEQUENCE**Fall Semester — (10 credits)**

ITE 101, ITE 233, ITE 235, ITE 237

Winter Semester — (7 credits)

ITE 239, ITE 241, ITE 243

**COMPUTER PROGRAMMING
SPECIALIST — ASSOCIATE IN
APPLIED SCIENCE**

Programmers write the detailed sets of instructions computers understand and act on. Emphasis is placed on computer information systems, programming language, concepts and designs, logic and theory. Job opportunities may include applications programmer, assistant statistician, computer operator, information office systems manager, operations scheduler, systems analyst or programmer.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (18 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience 3

MATHEMATICS — (4 credits)

MTH 131 Intermediate Algebra 4

SCIENCE — (4 credits)**Choose one of the following:**

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

ECN 231 Macroeconomics 3

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric-1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in a Changing Society	3

ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (16 credits)

ACC 211 General Accounting	4
• or ACC 231 Principles of Accounting	4
• or ACC 216 Financial Accounting Concepts	4
BUS 101 Marketing	3
• or BUS 131 Introduction to Business	3
ENG 232 Technical & Business Writing	3
ITE 101 Information Technology Education	3

PLUS Choose 3 credits from the following:

BUS 150 Leadership	3
BUS 234 Business Management	3
BUS 236 Small Business Management	3
BUS 243 Management Problems	3

**INFORMATION TECHNOLOGY EDUCATION CORE
REQUIREMENTS — (26 credits)**

ITE 108 Business Prog: Logic & Theory	3
ITE 111 Systems Concepts and Design	3
ITE 112 Information Systems	3

Choose 6 credits from the following:

ITE 127 Comprehensive MS ACCESS	3
ITE 220 Networking Technologies	3
ITE 221 Networking Administration	3
ITE 233 A+ Hardware Component	3
MTH 133 Intro to Probability and Statistics	3

TAKE 2 CREDITS IN OPERATING SYSTEMS:

ITE 047 Operating Systems: UNIX	1
ITE 067 MS-DOS Workshop	1

TAKE 6 CREDITS FROM ONE OF THE FOLLOWING GROUPS:**BASIC:**

ITE 134 Computer Programming -Visual Basic	3
ITE 135 Advanced Visual Basic	3

PROGRAMMING in C++:

ITE 182 Programming in C++	3
ITE 183 Programming in Visual C++	3

PROGRAMMING IN JAVA:

ITE 150 JAVA Programming	4
ITE 151 Advanced JAVA Programming	3

CHOOSE 3 CREDITS OF PROGRAMMING LANGUAGE NOT TAKEN ABOVE:

ITE 134 Computer Programming - Visual Basic	3
ITE 150 JAVA Programming	4
ITE 182 Programming in C++	3

NOTE: A course may not count for more than one requirement.

COMPUTER PROGRAMMING SPECIALIST — CERTIFICATE

Minimum credits:	35
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

INFORMATION TECHNOLOGY EDUCATION CORE REQUIREMENTS — (35 credits)

ITE 101 Intro to Information Technology	3
ITE 108 Business Programming: Logic & Theory	3
ITE 111 Systems Concepts and Design	3

CHOOSE 3 CREDITS FROM THE FOLLOWING:

ITE 127 Comprehensive MS ACCESS	3
ITE 220 Networking Technologies	3
ITE 221 NetWare Administration	3
ITE 233 A+ Hardware Component	3
MTH 133 Introduction to Probability & Statistics	3

TAKE 2 CREDITS IN OPERATING SYSTEMS:

ITE 047 Operating Systems: UNIX	1
ITE 067 MS-DOS Workshop	1

TAKE ALL OF THE FOLLOWING:

ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3

MTH 120 Beginning Algebra	4
• or MTH 112 Business Math	3
• or higher level mathematics course	

CHOOSE 3 CREDITS OF THE FOLLOWING:

ACC 211 General Accounting	4
• or ACC 231 Principles of Accounting	4
• or ACC 216 Financial Accounting Concepts	4
BUS 101 Marketing	3
• or BUS 131 Introduction to Business	3

TAKE 6 CREDITS FROM ONE OF THE FOLLOWING GROUPS:**BASIC:**

ITE 134 Visual BASIC	3
ITE 135 Advanced Visual BASIC	3

PROGRAMMING IN C++:

ITE 182 Programming in C++	3
ITE 183 Programming in Visual C++	3

CHOOSE 3 CREDITS OF PROGRAMMING LANGUAGE NOT TAKEN:

ITE 134 Visual BASIC	3
ITE 150 JAVA Programming	4
ITE 182 Programming in C++	3

NOTE: A course may not count for more than one requirement.

MICROCOMPUTER APPLICATIONS SPECIALIST— ASSOCIATE IN APPLIED SCIENCE

Students completing this certificate are prepared to assume a variety of positions in an automated office setting. The program recognizes the increasingly important role of the microcomputer in modern business and is designed to assist students develop skills in the use of microcomputer applications.

Depending upon the curriculum students choose, career choices may include applications specialist, information office manager, end user support technician, information systems associate, personal computer (PC) coordinator, or software specialist.

Minimum credits:	62
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience 3

MATHEMATICS — (3 credits)

MTH 120 Beginning Algebra 3

- or higher mathematics course

SCIENCE — (4 credits)**Choose one of the following:**

BIO 131 General Biology 4

CEM 121 Chemistry of Life 4

CEM 131 General Chemistry 4

CEM 141 General Inorganic Chemistry 5

GEL 160 Introduction to Geology 4

NSC 131 Contemporary Science 4

PHY 131 Conceptual Physics 4

PHY 151 Astronomy 4

SOCIAL SCIENCE — (3 credits)

ECN 231 Macroeconomics 3

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric-1400 3

ART 112 Art History: Renaissance - Present 3

ENG 236 Women in a Changing Society 3

ENG 246 Short Story & Novel 3

ENG 247 Poetry and Drama 3

ENG 249 African American Literature 3

ENG 252 Shakespeare 3

ENG 255 American Literature - 19th Century 3

ENG 256 American Literature - 20th Century 3

ENG 257 World Literature I 3

HUM 131 Cultural Connections 3

MUS 131 Understanding Music 3

PHL 231 Introduction to Philosophy 3

PHL 232 Logic 3

THR 116 Introduction to Theatre 3

HEALTH / PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness 1

HPF 168 Weight Training & Conditioning 2

HPF 221 Jazz Techniques 3

HPF 277 Stress Management 2

HPF 278 Stress Management for Parents 2

RELATED REQUIREMENTS — (16 credits)

ACC 211 General Accounting 4

- or ACC 231 Principles of Accounting 4

- or ACC 216 Financial Accounting Concepts 4

BUS 101 Marketing 3

- or BUS 131 Introduction to Business 3

ENG 232 Technical & Business Writing 3

ITE 101 Information Technology Education 3

PLUS CHOOSE 3 CREDITS FROM THE FOLLOWING:

BUS 150 Leadership 3

BUS 155 Human Resources Business 3

BUS 234 Business Management 3

BUS 236 Small Business Management 3

BUS 243 Business Problems and Solutions 3

INFORMATION TECHNOLOGY EDUCATION CORE REQUIREMENTS — (29 credits)

ITE 042 Frontpage 1

ITE 047 Operating System - UNIX 1

ITE 050 Internet 1

ITE 067 MS DOS Workshop 1

ITE 083 Windows Workshop 1

ITE 092 PowerPoint Workshop 1

ITE 127 MSAccess Comprehensive 3

ITE 130 Microsoft Excel 3

ITE 134 Visual BASIC 3

ITE 160 HTML 2

ITE 171 Desktop Publishing 3

ITE 186 Microsoft Word 3

ITE 221 Foundations of Novell Networking 3

ITE 233 A+ Hardware 3

SUGGESTED COURSE SEQUENCE**First Year, Fall Semester — (15 credits)**

ENG 131, MTH 120 or higher, ITE 067, ITE 101, ITE 160,

ITE 186

First Year, Winter Semester — (14 credits)

ITE 042, ITE 047, ITE 050, ITE 130, ITE 171, ECN 231, BUS 101

or BUS 131

First Year, Spring Semester — (1 credit)

Health/Physical Fitness course

Second Year, Fall Semester — (16 credits)

ENG 232, ACC 211 or ACC 231, BUS 150 or BUS 155 or

BUS 234 or BUS 236 or BUS 243, ITE 221, ITE 233

Second Year, Winter Semester — (15 credits)

ITE 127, Science course, ITE 083, Humanities course, ITE 092,

ITE 134

MICROCOMPUTER APPLICATION SPECIALIST— CERTIFICATE

Minimum credits:	41
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

INFORMATION TECHNOLOGY CORE REQUIREMENTS — (38 credits)

ITE 042 Front Page	1
ITE 047 Operating System - UNIX	1
ITE 050 Internet	1
ITE 067 MS DOS Workshop	1
ITE 083 Windows Workshop	1
ITE 092 PowerPoint Workshop	1
ITE 101 Information Technology Education	3
ITE 127 MS Access Comprehensive	3
ITE 130 Microsoft Excel	3
ITE 134 Visual BASIC	3
ITE 160 HTML	2
ITE 171 Desktop Publishing	3
ITE 186 Microsoft Word	3
ITE 221 Foundations of Novell Networking	3
ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
MTH 120 Beginning Algebra or higher	3

PLUS One course from the following — (3-4 credits)

ACC 211 General Accounting	4
• or ACC 216 Financial Accounting Concepts	4
ACC 231 Principles of Accounting	4
BUS 101 Marketing	3
BUS 131 Introduction to Business	3
BUS 150 Leadership	3
BUS 155 Human Resources Business	3

SUGGESTED COURSE SEQUENCE FOR MICROCOMPUTER APPLICATIONS SPECIALIST

Fall Semester — (17 credits)
ENG 131, ITE 050, ITE 083, ITE 101, ITE 130, ITE 134, ITE 186

Winter Semester — (13 credits)

ITE 042, ITE 047, ITE 067, ITE 092, ITE 127, ITE 171, ITE 221

Spring Semester — (3 credits)

MTH 120 or higher

Second Fall Semester — (8-9 credits)

ACC 211 or ACC 231 or BUS 101 or BUS 131 or BUS 150 or
BUS 155, ENG 232, ITE 160

MICROSOFT OFFICE USER SPECIALIST — CERTIFICATE

Certificate students completing this certificate are prepared to assume a variety of positions in an automated office setting. The program recognizes the increasingly important role of the personal computer in modern business and is designed to assist students develop skills in the use of word/information processing, database development and management, spreadsheets and graphing, personal management, project management, and electronic presentations.

The Microsoft Office User Specialist program provides a framework for measuring student proficiency with Microsoft Office applications. It provides an industry-recognized standard for measuring an individual's mastery of "Office" applications. The courses at Jackson Community College for this program are geared toward the "Expert" level. The successful completion of Microsoft Office sponsored exams are in addition to the successful completion of JCC's courses for credit. For specific information on Microsoft Certification, students will need to talk with the program advisor. Students completing the program could be hired as secretaries, office managers, administrative assistants, and stenographers.

Minimum credits:	38
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (6 credits)

ENG 131 Writing Experience	3
MTH 120 Beginning Algebra	4
• or MTH 133 Intro to Probability & Statistics	3

RELATED CORE REQUIREMENTS — (10 credits)

ACC 211 General Accounting	4
• or ACC 231 Principles of Accounting I	4
• or ACC 216 Financial Accounting Concepts	4
BUS 150 Leadership	3
• or BUS 155 Human Relations in Business	3
ITE 101 Information Technology Education	3

MICROSOFT OFFICE SPECIALIST REQUIREMENTS — (19 credits)

ITE 042 MS FrontPage Workshop**	1
ITE 043 Microsoft Outlook Workshop*	1
ITE 092 Microsoft PowerPoint Workshop*	1
ITE 127 Microsoft Access: Comprehensive*	3
ITE 129 Office Administrative Systems	4
ITE 130 Microsoft Excel*	3
ITE 186 Microsoft Word*	3
ENG 232 Technical & Business Writing	3

CHOOSE 3 CREDITS FROM THE FOLLOWING:

ITE 044 Microsoft Office Integration Workshop	1
ITE 050 Internet	1
ITE 067 DOS Workshop	1
ITE 083 Windows Workshop	1
ITE 134 Visual BASIC	3
ITE 171 Desktop Publishing	3
ITE 245 Internship	1-6
BUS 239 Project Management	3
SEC 132 Intermediate Keyboard/Typing	3

SAMPLE CURRICULUM**Fall Semester — (17 credits)**

ENG 131, MTH 120 or higher, ITE 101, ACC 211 or ACC 231,
ITE 186

Winter Semester — (15 credits)

ITE 129, ENG 232, ITE 043, ITE 092, ITE 127, ITE 130

Spring Semester — (6 credits)

BUS 150 or BUS 155, 3 other credits

**SKILL SET CREDENTIAL —
MICROSOFT USER — (14 credits)**

ITE 042* MS FrontPage Workshop	1
ITE 043* Microsoft Outlook Workshop	1
ITE 050 Internet	1
ITE 083 Windows Workshop	1
ITE 092* Powerpoint Workshop	1
ITE 127* Microsoft Access Comprehensive	3
ITE 130* Microsoft Excel	3
ITE 186* Microsoft Word	3

*These courses are part of the Microsoft Office User credential tests. Students who pass the "expert" Word and Excel tests; and the "core" Access, PowerPoint, and Outlook tests will receive "Master" recognition from the Microsoft Corporation. Other levels of Microsoft Office certification are available from Microsoft as students begin passing tests.

**Microsoft FrontPage certification tests are available from Microsoft but do not count towards MOUS mastery certification.

The successful completion of Microsoft Office sponsored exams are in addition to the successful completion of JCC's courses for credit. For specific information on Microsoft certification, students should talk with the program advisor.

Students completing the program could be hired as administrative assistants, database administrators, web designers, and secretaries.

**NETWORKING SPECIALIST —
CERTIFICATE**

Networking involves the hardware, software and communication channels necessary to allow computers to talk to each other. Students will study various components of computer networking. After each Novell class, students can apply through Novell to take Novell certification testing in the specific topic area. Students who pass all seven exams are recognized as Certified Novell Engineers (CNE) or Microsoft Certified Systems Engineers (MCSE). Students who can complete ITE 221- NetWare Administration can sit for the appropriate exam and earn certification as a Certified Novell Administrator (CNA). Many organizations now use computer networks and need networking specialists to maintain their networks. Several other occupations may utilize networking skills, such as office assistants, accountants or managers.

Minimum credits:	35
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

**INFORMATION TECHNOLOGY EDUCATION
RELATED REQUIREMENTS — (12 credits)**

MTH 131 Intermediate Algebra or higher level	3
ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
ITE 101* Information Technology Education	3

** ITE 101 is a prerequisite for ITE 261; students with one year of information technology work experience may be eligible to substitute another elective for ITE 101.*

CHOOSE EITHER OPTION 1 OR OPTION 2**OPTION 1 - INFORMATION TECHNOLOGY CORE
MICROSOFT OPTION — (25 credits)**

ITE 239 Network +	3
ITE 261 Windows 2000 Networking 1	3
ITE 262 Windows 2000 Networking 2	4
ITE 263 Windows 2000 Networking 3	3
ITE 264 Windows 2000 Networking 4	3

PLUS CHOOSE FROM THE FOLLOWING — (9 credits)

ITE 254 Designing SQL Server	3
ITE 255 Implementing SQL Server	3
ITE 265 Designing MS Windows 2000 Directory Services Infrastructure	3
ITE 266 Designing MS Windows 2000 Networking Services Infrastructure	3

ITE 267 Designing a Secure Microsoft Windows 2000 Network	3
ITE 268 Implementing and Administrating Exchange Server	3

OPTION 2 - INFORMATION TECHNOLOGY CORE**NOVELL OPTION — (17 credits)**

ITE 221 Foundations of Novell Networking	3
ITE 222 Novell Network Management Netware 6	3
ITE 224 NDS Design and Implementation	2
ITE 232 Novell ZENworks for Desktops	3
ITE 239 Network+ Networking Fundamentals Component ..	3
ITE 246 Advanced Novell Network Management	3

ITE ELECTIVES — (5 Credits)

ITE 047 UNIX	1
ITE 050 Internet	1
ITE 067 MS-DOS	1
ITE 108 Business Programming: Logic & Theory	3
ITE 117 BASIC Programming	3
ITE 134 Visual BASIC Programming	3
ITE 150 JAVA Programming	4
ITE 151 Advanced JAVA Programming	3
ITE 182 Programming in C++	3
ITE 183 Visual C++	3

BUSINESS ELECTIVES — (3 Credits)

ACC 231 Principles of Accounting	4
BUS 101 Marketing	3
BUS 131 Introduction to Business	3

SAMPLE CURRICULUM — MICROSOFT OPTION**Semester 1**

ITE 101, ITE 220, ITE 261, ITE 262, ENG 131

Semester 2

ITE 263, ITE 264, ENG 232, MTH 131, Electives (2-3 credits)

Semester 3

ITE 265, ITE 266, ITE 267, Electives (5-6 credits)

SAMPLE CURRICULUM — NOVELL OPTION**Semester 1**

ITE 101, ITE 221, ITE 239 ENG 131, Electives (3-4 credits)

Semester 2

ITE 222, , ITE 227, ITE 232, ENG 232, MTH 131

Semester 3

ITE 246, ITE 224, Electives (4-5 credits)

OFFICE AUTOMATION SPECIALIST — ASSOCIATE IN APPLIED SCIENCE

This program is for students desiring to obtain an associate degree after obtaining a certificate in the Microsoft Office User Specialist program or who would like to graduate with training that provides a high degree of competency for career entry and/or advancement in the automated business world. Students will be able to develop a mastery of Microsoft Office applications and receive certification from the Microsoft Corporation upon passing the "Expert" and/or "Core" levels of certification. In addition, students will be able to create flyers, reports, spreadsheets with charts, databases, create electronic presentations, and have general office skills. Students completing this program could be hired for above entry-level positions such as administrative assistant or office manager.

Minimum credits:	63
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS — (3 credits)

MTH 120 Beginning Algebra	3
• or higher level mathematics course	

SCIENCE — (4 credits)**Choose one of the following:**

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

ECN 231 Macroeconomics	3
------------------------------	---

HUMANITIES — (3 credits)**Choose one of the following:**

ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in a Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3

ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	3
HPF 168 Weight Training & Conditioning	3
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (19 Credits)

ACC 211 General Accounting	4
• or ACC 231 Principles of Accounting I	4
• or ACC 216 Financial Accounting Concepts	4
BUS 131 Intro to Business	3
BUS 150 Leadership	3
• or BUS 155 Human Relations in Business	3
ENG 232 Technical & Business Writing	3
ITE 101 Information Technology Education	3
ITE 171 Desktop Publishing	3

OFFICE AUTOMATION CORE REQUIREMENTS — CHOOSE OPTION 1 OR OPTION 2:

OPTION 1 — (27 credits)

ACC 130 Quick Books Pro	2
BUS 239 Project Management	3
ITE 042 Microsoft FrontPage Workshop	1
ITE 043 Microsoft Outlook Workshop	1
ITE 083 Windows Workshop	1
ITE 113 MS Office Pro Integration	3
ITE 114 Advanced MS Office	3
ITE 129 Office Administrative Systems	4
ITE 245 Internship	1-6
SEC 132 Intermediate Keyboard/Typing	3

ELECTIVES

Select from ITE classes to meet 63 credit degree requirement

OPTION 2 — (27 credits)

ACC 130 Quick Books Pro	2
BUS 239 Project Management	3
ITE 042 Microsoft FrontPage Workshop	1
ITE 043 Microsoft Outlook Workshop	1
ITE 083 Windows Workshop	1
ITE 092 Microsoft PowerPoint Workshop	1

ITE 127 Microsoft Access Comprehensive	3
ITE 129 Office Administrative Systems	4
ITE 130 Microsoft Excel	3
ITE 186 Microsoft Word	3
ITE 245 Internship	1-6
SEC 132 Intermediate Keyboard/Typing	3

ELECTIVES

ITE 044 MS Office Integration	1
ITE 050 Internet	1
ITE 067 Microsoft-DOS Workshop	1
ITE 117 Computer Programming: BASIC	3
ITE 128 Multimedia Applications	3
ITE 134 Visual BASIC	3
ITE 221 Netware Administration	3

SAMPLE CURRICULUM

OPTION 1

First Year, Fall Semester

ENG 131, ITE 083, ITE 101, ITE 113, MTH 120 or higher,
SEC 132

First Year, Winter Semester

ACC 211 or ACC 231, BUS 131, BUS 150 or 155, ITE 042,
ITE 043, ITE 114

First Year, Spring Semester

HPF Course, Elective

Second Year, Fall Semester

ITE 171, ACC 130, ENG 232, ECN 231, Science Course

Second Year, Winter Semester

ITE 129, ITE 245, Humanities Course, Electives

Second Year, Spring Semester

BUS 239

OPTION 2

First Year, Fall Semester

ENG 131, ITE 083, ITE 101, ITE 186, MTH 120 or higher,
SEC 132

First Year, Winter Semester

ACC 211 or ACC 231, BUS 131, BUS 150 or BUS 155, ITE 042,
ITE 043, ITE 130, ITE 092

First Year, Spring Semester

HPF Course

Second Year, Fall Semester

ACC 130, ECN 231, ENG 232, ITE 127

Second Year, Winter Semester

Science course, Humanities Course, ITE 171, ITE 245, elective

Second Year, Spring Semester

BUS 239

**TRANSFER PROGRAMS:
ASSOCIATE IN ARTS — BUSINESS**

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO Agreement:	No

Completion of this degree will allow a student to transfer to those institutions currently subscribing to the MACRAO Transfer Agreement. It will not, however, ensure that the student will be admitted to the university's college of business since admission to the university and admission to the college of business are two separate processes. All students electing this degree are strongly encouraged to make an appointment with a transfer advisor in the business department no later than the second semester of the freshman year. Students should also contact their intending transfer institution for advising purposes. Sample curricula for a few popular programs are included.

NOTE: Only courses with a 2.0 or better will transfer to most four-year colleges and universities. If you want to complete the MACRAO Articulation Agreement, you will need to plan your courses carefully. Completion of the Associate in Arts - Business Transfer Degree does NOT guarantee the MACRAO designation.

GENERAL EDUCATION REQUIREMENTS — (18 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (4 credits)**Choose one of the following:**

MTH 140 Precalculus	5
MTH 151 Calculus I	4

SCIENCE — (4 credits)**Choose one of the following:**

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy & Physiology	5

SOCIAL SCIENCE — (3 credits)

ECN 231 Macroeconomics	3
------------------------	---

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry & Drama	3
ENG 249 African-American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature - 19th Century	3
ENG 256 American Literature - 20th Century	3
ENG 257 World Literature I	3
ENG 261 Creative Writing I	3
ENG 262 Creative Writing II	3
HUM 131 Cultural Connections	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH AND FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 268 Advanced Weight Training	2
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

BUSINESS CORE — (17 credits)

ACC 231 Principles of Accounting I	4
ACC 232 Principles of Accounting II	4
ECN 232 Microeconomics	3

Choose two from the following:

BUS 101 Principles of Marketing	3
BUS 131 Introduction to Business	3
BUS 234 Principles of Management	3

ADDITIONAL REQUIREMENTS — (19 credits)**HUMANITIES — (6 credit hours)**

Choose two courses in two different disciplines from the list above.

ENGLISH — (3 credits)

ENG 132 Writing Experience	3
----------------------------	---

TECHNOLOGY — (3 credits)

ITE 101 Information Technology Education	3
--	---

SOCIAL SCIENCE — (3 credits)**Choose one course from the following:**

ANT 131 Cultural Anthropology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 117 Criminology	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
PSY 152 Social Psychology	3
PSY 245 Infancy Childhood	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
PSY 290 Human Sexuality	3
GEO 131 Physical Geography	3
GEO 132 World Religions	3
SOC 117 Criminology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 235 Minority Groups in America	3
SOC 236 Women in a Changing Society	3
SOC 251 Modern Social Problems	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization 1555 to Present	4
HIS 231 Development of the US through Civil War	3
HIS 232 Development of the US from the Civil War	3

SCIENCE — (4 credits)**Choose one of the following:**

CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 General Inorganic Chemistry & Analysis	5
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 251 Modern University Physics I	4

PROGRAM REQUIREMENTS

The remaining hours should be chosen from any ACC, BUS, or FIN course that will transfer. The selection of these courses should be made only after consulting with the institution to which you intend to transfer and a transfer advisor in the business department.

ACCOUNTING OR BUSINESS ADMINISTRATION BACHELOR'S DEGREE OPTION WITH SIENA HEIGHTS UNIVERSITY

Through an articulation agreement with Siena Heights University, graduates of JCC's two-year business programs can earn a Bachelor of Arts in accounting or a Bachelor of Arts in business. Students can work with JCC and Siena Heights staff members to select a completion program for their specific career goals. All the courses required to earn a bachelor's degree are available at Jackson Community College's main campus through the Siena Heights University degree-completion center.

TRANSFER — COMPUTER SCIENCE

Computer science majors can concentrate and think logically, and enjoy working with ideas and solving problems. They become computer programmers, systems analysts, systems programmers, and software engineers, have careers in telecommunications and computer operations, and hold positions in computer sales, design, and manufacturing. The requirements for this degree – especially mathematics and science requirements – vary considerably among transfer institutions. Please see an advisor for more information.

SAMPLE CURRICULUM FOR COMPUTER SCIENCE**First Year, Fall Semester**

ENG 131, CPS 175, MTH 151, CEM 141, MACRAO
Humanities course

First Year, Winter Semester

ENG 132, CPS 177, MTH 154, ECN 231, PHL 232

Second Year, Fall Semester

CPS 217, MTH 251, PHY 251, MACRAO Social Science course

Second Year, Winter Semester

MTH 254, MACRAO Social Science and Humanities courses

ENGINEERING/MANUFACTURING & INDUSTRIAL TECHNOLOGY PATHWAY

This pathway includes careers related to technologies necessary to design, develop, install or maintain physical systems. These may include engineering and related technologies, manufacturing technology, precision production and construction.

DEGREES/CERTIFICATES

- Automotive Service Technology
- Aviation Technology
- Climate Control Systems (HVAC)
- Customer Energy Specialist
- Electronic Technology /ELT
- Electronic Technology / Microcomputer Support

TRANSFER PROGRAMS

The first two-years of a student's college education usually consist of general study courses, introductory courses in a major and/or program of study, and selected electives. Refer to pages 38-40 for additional information on transfer and MACRAO. Academic advisors assist students in planning their transfer program. They can also provide transfer guide sheets indicating JCC courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included.

- Pre-Architecture
- Engineering

AUTOMOTIVE SERVICE TECHNOLOGY ASSOCIATE IN APPLIED SCIENCE

Designed for the student preparing for a career in the automotive field. Classroom activities provide students an opportunity to learn theory and test-taking skills to successfully pass the Michigan and/or ASE certification examinations. Shop activities provide students an opportunity to become proficient in the testing, diagnosing and servicing the various systems of the automobile. All eight areas of an automotive certification are thoroughly covered, and when combined with general and related courses, lead to an Associate of Applied Science degree. This provides the background for employment and advancement in various automotive related occupations such as service technician, service writer, service manager, proving grounds testing technician, shop owner, parts specialist, automotive machinist, alternate fuel vehicle technician, technical sales and motor sports.

Our Toyota corporate sponsored connection is called T-TEN. As part of the Toyota Technical Education Network, students have the option to enter into the Toyota T-TEN program. This prepares students to work as a technician in a Toyota dealership. These students take the same automotive classes

as other students with some important differences. Toyota provides T-TEN students with: Toyota work uniforms, Toyota training materials, Toyota vehicles and special tools to work with in the shop, assistance in finding a sponsoring Toyota dealership to do paid co-ops, Toyota course exit exams and Toyota certification upon successful completion of the program.

Our Ford corporate sponsored connection is called MLR. As part of the Ford Maintenance and Light Repair network, students have the option to enter into the Ford MLR program. This prepares students to work as a technician in Ford, Lincoln, or Mercury dealerships. These students take the same automotive classes as other students with some important differences. Ford MLR students concentrate on electrical systems, climate control, brakes, and suspension and steering. They utilize Ford training materials including service manuals, electrical/vacuum troubleshooting manuals, technical service bulletins, use Ford approved tools and equipment, work on Ford automobiles/light trucks, and upon successful completion of the course and the Ford Multimedia Training exit exam are Ford certified with Service Technician Specialty Training credentials. With these credentials students will receive assistance in obtaining Ford, Lincoln, or Mercury dealership placement to work in the areas of certification.

Minimum credits:	63
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

Contact Program Staff, Les Coxon at 517-796-8541 or Dan Livingston at 517-796-8540.

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

Choose any one of the following:

MTH 110 Pre-Algebra	3
MTH 112 Business Math	3
MTH 120 Beginning Algebra	4
MTH 131 Intermediate Algebra	4
MTH 133 Introduction to Probability & Statistics	3
MTH 140 Pre-calculus	5
MTH 151 Calculus I	4

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 151 General Botany	4
BIO 152 General Zoology	4
BIO 155 Human Anatomy	5

CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
CEM 141 General Inorganic Chemistry	5
CEM 142 General Inorganic Chemistry & Analysis	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4
PHY 231 College Physics I	4
PHY 251 Modern University Physics II	5

SOCIAL SCIENCE (3 credits)**Choose one of the following:**

ANT 131 Introduction to Anthropology	3
CRJ 101 Criminal Law	3
CRJ 104 Criminal Justice Psychology	3
CRJ 111 Introduction to Criminal Justice	4
CRJ 120 Human Relations for Corrections	3
CRJ 127 Corrections Law	3
ECN 231 Macroeconomics	3
ECN 232 Microeconomics	3
GEO 131 Physical Geography	3
HIS 120 Ancient History	3
HIS 131 Western Civilization to 1555	4
HIS 132 Western Civilization 1955 to Present	4
HIS 231 Development of the US through the Civil War	3
HIS 232 Development of the US from the Civil War	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
PSY 152 Social Psychology	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 236* Women in a Changing Society	3

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236* Women in a Changing Society	3
ENG 246 Short Story & Novel	4
ENG 247 Poetry and Drama	3
ENG 249 African-American Literature	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3

MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Intro to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

**Cannot be double-counted; prefix chosen at registration cannot be changed.*

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 268 Advanced Weight Training	2
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

AUTOMOTIVE SERVICE TECHNOLOGY CORE**REQUIREMENTS — (38 credits)**

AUT 102 Engine Performance I	4
AUT 103 Engine Performance II	4
AUT 105 Automotive Brakes	3
AUT 106 Suspension and Steering	3
AUT 108 Automotive Air Conditioning/Heating	3
AUT 112 Electrical Systems I	3
AUT 113 Electrical Systems II	3
AUT 201 Engine Repair	4
AUT 202 Automatic Transmission	4
AUT 204 Manual Drivetrain	3
AUT 210 Co-op Experience	4

AUTOMOTIVE SERVICE TECHNOLOGY ELECTIVES — (8 credits)

AUT 101 General Service	2
AUT 118 Diesel Fundamentals	2
AUT 211 Co-Op Experience	4
AUT 212 Co-Op Experience	4
AUT 245 Auto Lab Experience	4

- or select electives from classes in BUS or ELT

AUTOMOTIVE SERVICE TECHNOLOGY — CERTIFICATE

This program provides classroom and laboratory experiences that prepare the student for entry-level employment in the automotive service field. It also prepares students for the Michigan and/or Automotive Service Excellence (ASE) certification tests.

Minimum credits:	38
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

Contact Program Staff Les Coxon at 517-796-8541 or Dan Livingston at 517-796-8540

AUTOMOTIVE SERVICE TECHNOLOGY CORE REQUIREMENTS — (34 credits)

AUT 105 Automotive Brakes	3
AUT 106 Suspension and Steering	3
AUT 102 Engine Performance I	4
AUT 103 Engine Performance II	4
AUT 108 Automotive Air Conditioning/Heating	3
AUT 112 Electrical Systems I	3
AUT 113 Electrical Systems II	3
AUT 201 Engine Repair	4
AUT 202 Automatic Transmission	4
AUT 204 Manual Drivetrain	3

RELATED REQUIREMENTS — (4 credits)

AUT 210 Co-op	4
AUT 211 Co-op	4
AUT 212 Co-op	4

SKILL SET CREDENTIAL — WHEEL SERVICE

Contact Program Staff, Les Coxon at 517-796-8541 or Dan Livingston at 517-796-8540.

Minimum credits:	12
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

AUT 101 General Service	2
AUT 105 Automotive Brakes	3
AUT 106 Suspension and Steering	3
AUT 210 Co-op	4

SKILL SET CREDENTIAL — DRIVEABILITY

Contact Program Staff, Les Coxon at 517-796-8541 or Dan Livingston at 517-796-8540.

Minimum credits:	21
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

AUT 102 Engine Performance I	4
AUT 103 Engine Performance II	4
AUT 108 Automotive Air Conditioning/Heating	3
AUT 112 Electrical Systems I	3
AUT 113 Electrical Systems II	3
AUT 211 Co-op	4

SKILL SET CREDENTIAL — POWERTRAIN

Contact Program Staff, Les Coxon at 517-796-8541 or Dan Livingston at 517-796-8540.

Minimum credits:	15
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

AUT 201 Engine Repair	4
AUT 202 Automatic Transmission	4
AUT 204 Manual Drivetrain	3
AUT 212 Co-op	4

AVIATION FLIGHT TECHNOLOGY—ASSOCIATE IN APPLIED SCIENCE

Basic ground school and flight instruction needed to meet the requirements of the Federal Aviation Administration's Commercial Pilot certificate with instrument and flight instructor ratings.*

Federal and/or Michigan law may require that enrollees in the Aviation Program undergo an FBI background check. Contact the Director of Aviation with questions.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience 3

MATHEMATICS — (3 credits)**Choose one of the following:**

MTH 131 Intermediate Algebra 4

MTH 133 Intro to Probability and Statistics 3

SCIENCE — (4 credits)**Choose one of the following:**

PHY 131 Our Physical World 4

PHY 231 College Physics 4

SOCIAL SCIENCE — (3 credits)

PLS 141 American National Government 3

HUMANITIES — (3 credits)

HUM 131 Cultural Connections 3

HEALTH/PHYSICAL FITNESS— (1 credit)**Choose one of the following:**

HPF 160 Wellness 1

HPF 168 Weight Training & Conditioning 2

HPF 221 Jazz Techniques 3

HPF 277 Stress Management 2

HPF 278 Stress Management for Parents 2

AVIATION TECHNOLOGY CORE REQUIREMENTS — (35 credits)

AFT 100 Basic Maneuvers 2

AFT 110 Primary Ground School 3

AFT 115 Primary Flight I 4

AFT 120 Primary Flight II 4

AFT 125 Commercial Ground School 3

AFT 130 Commercial Flight I 4

AFT 135 Instrument Ground School 3

AFT 140 Commercial Flight II 4

AFT 200 Commercial Flight III 4

AFT 205 Commercial Flight IV 4

AVIATION TECHNOLOGY ELECTIVES

Select electives from all classes (except course letters CED, CEU, CFO, CJT, CSS, TEN) so that degree equals 60 credits.

ADDITIONAL REQUIREMENT

Complete the current FAA requirements to meet the minimum flight time hours (see Flight Director and/or FAA for current requirements).

** All enrollees must be capable of attaining the FAA class II medical certificate.*

**SKILL SET CREDENTIAL —
COMPUTER AIDED DRAFTING (CAD)**

Minimum credits: 18

Minimum cumulative GPA: 2.0

Minimum JCC credits: 12

MACRAO agreement: No

ITE 083 Windows Workshop 1

CAD 121 Technical Drafting I 4

CAD 122 Technical Drafting II 4

CAD 131 Computer Assisted Drafting I - AutoCAD I 3

- or CAD 140 Computer Assisted Drafting I -

Micro Station 3

CAD 132 Computer Assisted Drafting II - AutoCAD II 3

- or CAD 141 Computer Assisted Drafting II -

Micro Station 3

CAD 133 Computer Assisted Drafting III - AutoCAD III 3

**CUSTOMER ENERGY SPECIALIST —
CERTIFICATE**

Minimum credits: 44

Minimum cumulative GPA: 2.0

Minimum JCC credits: 12

MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS — (9 credits)

ENG 131 Writing Experience 3

ENG 232 Technical & Business Writing 3

SPH 231 Communication Fundamentals 3

BUSINESS RELATED REQUIREMENTS — (16 credits)

ACC 211 General Accounting 4

- or ACC 231 Principles of Accounting I 4

BUS 101 Marketing 3

BUS 131 Introduction to Business 3

BUS 135 Business Law I 3

ITE 101 Information Technology Education 3

TECHNICAL CORE REQUIREMENTS — (19 credits)

CAD 121 Technical Drafting I 4

CAD 131 Computer Assisted Drafting I(AutoCAD) 3

- or 140 Computer Assisted Drafting I(MicroStation) 3

CAD 132 Computer Assisted Drafting II (AutoCAD) 3

- or 141 Computer Assisted Drafting II(MicroStation) 3

ELT 120 Circuit Analysis I 4

ELT 125 Circuit Analysis II 3

PHY 161 Industrial Physics 2

ELECTRONIC TECHNOLOGY/ELT — ASSOCIATE IN APPLIED SCIENCE

Electronic technologists are employed in such fields as digital computer maintenance, voice and data communications, radio and television broadcasting, medical electronic instrumentation, high-tech manufacturing, research and development in laboratory settings.

Students may also work to achieve A+ certification for employment as personal computer service professionals. A+ certification is the "journeyman's card" for computer technologists, which is recognized by Comp TIA. The non-profit Computing Technology Industry Association (Comp TIA) is widely recognized as the standard for qualified computer service professionals.

Minimum credits:	71
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (19 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (5 credits)

MTH 140 Pre-calculus	5
----------------------	---

SCIENCE — (4 credits)

PHY 231 College Physics I	4
---------------------------	---

SOCIAL SCIENCE — (3 credits)

Choose one of the following:

PLS 141 American National Government	3
ECN 231 Macroeconomics	3

HUMANITIES — (3 credits)

Choose one of the following:

PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (11 credits)

Choose one of the following groups:

TRANSFER GROUP (General ELT option)

ITE 182 Programming in C++	3
• or ITE 134 Computer Programming - Visual Basic	3
MTH 151 Calculus I	4
PHY 232 College Physics II	4

NON-TRANSFER GROUP (General ELT option)

ITE 182 Programming in C++	3
• or ITE 134 Computer Programming - Visual Basic	3

AND

Choose 8 credits from the following: any CAD, ELT, ITE course that best meet your educational goals.

ELT CORE REQUIREMENTS — (41 credits)

ELT 120 Circuit Analysis I	4
ELT 125 Circuit Analysis II	3
ELT 130 Electronics I	4
ELT 140 Introduction to Digital Electronics	4
ELT 157 Programmable Logic Controllers	4
ELT 250 Electric Motors and Controls	4
ELT 270 Communications Circuits	4
ELT 280 Digital Systems	4
ITE 101 Information Technology Education	3
ITE 233 A+ Hardware	3
ITE 235 A+ Software	3
ITE 237 A+ Test Prep	1

And electives to meet 71 credit degree requirement.

ELECTRONIC TECHNOLOGY/ MICROCOMPUTER SUPPORT — ASSOCIATE IN APPLIED SCIENCE

Electronic technologists are employed in such fields as digital computer maintenance, voice and data communications, radio and television broadcasting, medical electronic instrumentation, high-tech manufacturing, research and development in laboratory settings.

Students may also work to achieve A+ certification for employment as personal computer service professionals. A+ certification is the "journeyman's card" for computer technologist, which is recognized by Comp TIA. The non-profit Computing Technology Industry Association (Comp TIA) is widely recognized as the standard for qualified computer service professionals.

Minimum credits:	70
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (19 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (5 credits)

MTH 140 Pre-calculus	5
----------------------	---

SCIENCE — (4 credits)

PHY 231 College Physics I	4
---------------------------	---

SOCIAL SCIENCE — (3 credits)

Choose one of the following:

PLS 141 American National Government	3
ECN 231 Macroeconomics	3

HUMANITIES — (3 credits)

Choose one of the following:

PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (11 credits)

MICROCOMPUTER SUPPORT GROUP

ITE 182 Programming in C++	3
----------------------------	---

AND

Choose 8 credits from the following: any CAD, ELT, ITE, course that best meet your educational goals.

MICROCOMPUTER CORE REQUIREMENTS — (40 credits)

ELT 119 DC Fundamentals	3
ELT 124 AC Fundamentals	2
ELT 129 Semiconductor Devices	2
ELT 139 Digital Electronic Fundamentals	3
ELT 280 Digital Systems	4
ITE 047 Operating Systems: UNIX	1
ITE 083 Windows Workshop	1
ITE 067 MS DOS Workshop	1

ITE 101 Information Technology Education	3
ITE 134 Visual Basic 2 for Windows	3
ITE 233 A+ Hardware Component	3
ITE 235 A+ O/S Component	3
ITE 237 A+ Certification Exam Preparation	1
ITE 239 Network+ Networking Fundamentals Component	3
ITE 241 N+ Protocols	3
ITE 243 N+ Test Prep	1
BUS 155 Human Relations in Business	3

And electives to meet 70 credit degree requirement.

ELECTRONIC TECHNOLOGY/ELT — CERTIFICATE

Minimum credits:	36
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

ELECTRONIC TECHNICIAN CORE REQUIREMENTS — (32 credits)

ITE 101 Information Technology Education	3
ITE 233 A+ Hardware Component	3
ITE 235 A+ O/S Component	3
ITE 237 A+ Certification Exam Preparation	1
ELT 120 Circuit Analysis I	4
ELT 125 Circuit Analysis II	3
ELT 130 Electronics I	4
ELT 140 Introduction to Digital Electronics	4
MTH 131 Intermediate Algebra	4
ENG 131 Writing Experience	3

RELATED REQUIREMENTS — (4 credits)

ELT 157 Introduction to PLCS	4
ELT 250 Electric Motors and Controls	4
ELT 280 Digital Systems	4
ITE 134 Visual Basic 2 for Windows	3

TECHNICAL ELECTIVES

Select classes from CAD, ELT, ITE to meet your 36 credit certificate requirement

ELECTRONIC TECHNOLOGY/ MICROCOMPUTER SUPPORT — CERTIFICATE

Minimum credits:	36
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

MICROCOMPUTER CORE REQUIREMENTS— (33 credits)

ELT 119 DC Fundamentals	3
ELT 124 AC Fundamentals	2
ELT 129 Semiconductor Devices	2
ELT 139 Digital Electronic Fundamentals	3
ITE 047 Operating Systems: UNIX	1
ITE 083 Windows Workshop	1
ITE 067 MS DOS Workshop	1
ITE 101 Information Technology Education	3
ITE 233 A+ Hardware Component	3
ITE 235 A+ O/S Component	3
ITE 237 A+ Certification Exam Preparation	1
ITE 239 Network+ Networking Fundamentals Component	3
MTH 131 Intermediate Algebra	4
ENG 131 Writing Experience	3

RELATED REQUIREMENTS — (3 credits)

ELT 157 Introduction to PLCs	4
ELT 250 Electric Motors and Controls	4
ELT 280 Digital Systems	4
ITE 134 Visual Basic 2 for Windows	3

TECHNICAL ELECTIVES

Select classes from CAD, ELT, ITE to meet your 36 credit certificate requirement

APPRENTICESHIP INFORMATION

Apprenticeship programs are available in many trades in cooperation with an employer or a joint apprenticeship committee representing labor and management. The U.S. Department of Labor/Bureau of Apprenticeship and Training registers and monitors the programs to ensure quality in apprenticeship programs nationwide.

Apprenticeship training involves classroom and on-the-job training over a span of usually four years. The process of applying knowledge on the job provides the apprentice with the opportunity to develop the necessary skills for a particular trade.

Upon completion of all employer-specified coursework and the required hours of on-the-job instruction, the employer may recommend that the apprentice receive a completion certificate from the U.S. Department of Labor/Bureau of Apprenticeship and Training.

SKILL SET CREDENTIAL

The "Skill Set Credentials" process is a building block approach to completing a trade certificate program. Students can choose to complete the skill set credentials depending upon the level of skill and knowledge desired. Students can apply for a skill set credential upon completion of the required courses.

CLIMATE CONTROL TECHNOLOGY — ASSOCIATE IN APPLIED SCIENCE

Provides skills required for heating, air conditioning and refrigeration. Training areas include application techniques for basic and advanced air conditioning, heat pumps, fossil fuels, solar energy and refrigeration.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3-4 credits)

MTH 120 Beginning Algebra	3-4
• or higher level mathematics course	

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
CEM 141 General Inorganic Chemistry	5
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

Choose one of the following:

PLS 141 American National Government	3
ECN 231 Macroeconomics	3

HUMANITIES — (3 credits)

Choose one of the following:

PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3

HEALTH/PHYSICAL FITNESS (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

CLIMATE CONTROL CORE REQUIREMENTS — (27 credits)

AIT 117 Beginning Sheet Metal	2
AIT 118 Advanced Sheet Metal	2
AIT 121 Introduction to HVAC	3
AIT 123 Application of HVAC Technology	3
AIT 131 Basic HVAC Electricity/Controls	2
AIT 135 Refrigeration/Air Conditioning I	3
AIT 136 Refrigeration/Air Conditioning II	3
AIT 137 Advanced HVAC Electricity/Controls	2
AIT 141 Basic Heating	2
AIT 142 Advanced Heating	2
AIT 200 Mechanical Code	2
AIT 201 Refrigeration Certification	1

RELATED REQUIREMENTS (6 credits)**Choose two of the following:**

BUS 155 Human Relations in Business	3
ENG 232 Technical & Business Writing	3
ITE 101 Information Technology Education	3

ADDITIONAL REQUIREMENTS

EMS 110 CPR & First Aid	2
• or current Adult CPR & First Aid Certification	

ELECTIVES

Select electives from classes in any courses (except those with prefixes CED, CEU, CFO, CSS) so that degree equals 60 credits.

CLIMATE CONTROL SYSTEMS — CERTIFICATE

Climate Control Technology curriculum provides skills required for heating, air conditioning and refrigeration. Training areas include application techniques for basic and advanced air conditioning, heat pumps, fossil fuels, solar energy and refrigeration.

Minimum credits:	35
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

CLIMATE CONTROL SYSTEMS CORE REQUIREMENTS — (35 credits)

AIT 117 Beginning Sheet Metal	2
AIT 118 Advanced Sheet Metal	2
AIT 121 Introduction to HVAC	3
AIT 123 Application of HVAC Technology	3
AIT 131 Basic HVAC Electricity/Controls	2
AIT 135 Refrigeration/Air Conditioning I	3
AIT 136 Refrigeration/Air Conditioning II	3
AIT 137 Advanced HVAC Electricity/Controls	2
AIT 141 Basic Heating	2
AIT 142 Advanced Heating	2
AIT 200 Mechanical Code	2
AIT 201 Refrigeration Certification	1
ENG 232 Technical & Business Writing	3
MTH 110 Basic Math	3
• or higher level math course	3

ADDITIONAL REQUIREMENTS

EMS 110 CPR & First Aid	2
• or current Adult CPR & First Aid Certification	

ELECTRICIAN — ASSOCIATE IN APPLIED SCIENCE

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)**ENGLISH — (3 credits)**

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra or higher	3
--	---

SCIENCE — (4 credits)

PHY 231 College Physics I	4
---------------------------------	---

SOCIAL SCIENCE — (3 credits)**Choose one of the following:**

PLS 141 American National Government	3
ECN 231 Macroeconomics	3

HUMANITIES — (3 credits)**Choose one of the following:**

PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

ELECTRICIAN CORE REQUIREMENTS — (40 credits)

ELT 074 National Electric Code	2
ELT 120 Circuit Analysis I	4
ELT 125 Circuit Analysis II	3
ELT 130 Electronics I	4
ELT 140 Introduction to Digital Electronics	4
ELT 148 Electrical Math I	2
ELT 149 Electrical Math II	2
ELT 150 Residential Wiring	2
ELT 151 Commercial Wiring	2
ELT 152 Industrial Wiring	2
ELT 215 Electrical Troubleshooting	2
ELT 220 Industrial Motion Control	3
ELT 250 Electrical Motors and Controls	4
ELT 260 Basic Programmable Controllers	4

ADDITIONAL REQUIREMENTS

EMS 110 CPR & First Aid	2
• or current Adult CPR & First Aid Certification	

ELECTIVES

Complete elective credits in any discipline to reach 60 credits.

ELECTRICIAN — CERTIFICATE

Minimum credits:	40
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

REQUIRED COURSES

ELT 074 National Electric Code	2
ELT 120 Circuit Analysis I	4
ELT 125 Circuit Analysis II	3
ELT 130 Electronics I	4
ELT 140 Introduction to Digital Electronics	4
ELT 148 Electrical Math I	2
ELT 149 Electrical Math II	2
ELT 150 Residential Wiring	2
ELT 151 Commercial Wiring	2
ELT 152 Industrial Wiring	2
ELT 215 Electrical Troubleshooting	2
ELT 220 Industrial Motion Control	3

ELT 250 Electrical Motors and Controls	4
ELT 260 Basic Programmable Controllers	4

ADDITIONAL REQUIREMENTS

EMS 110 CPR & First Aid	2
• or current Adult CPR & First Aid Certification	

SKILL SET CREDENTIAL — ELECTRICAL BASICS

Completion of this program provides solid electrical foundation for the person seeking electrical or industrial maintenance mechanic training.

Minimum credits:	13
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

ELT 120 Circuit Analysis I	4
ELT 125 Circuit Analysis II	3
ELT 150 Residential Wiring	2
ELT 152 Industrial Wiring	2
ELT 148 Electrical Math I	2

PRE-REQUISITE COURSES

MTH 110 Pre-Algebra	3
• or pass course placement	

TRANSFER PROGRAMS — PRE-ARCHITECTURE

Architects design buildings and other structures. These buildings must be attractive as well as functional, safe and economical, and must suit the needs of the people who use them. Architects take all these things into consideration when they design buildings and other structures.

Architects provide a wide variety of professional services to individuals and organizations planning a construction project. They may be involved in all phases of development, from the initial discussion of general ideas with the client through the entire life of the facility. Their duties require a number of skills - design, engineering, managerial, communication and supervisory.

SAMPLE CURRICULUM FOR PRE-ARCHITECTURE**First Year, Fall Semester**

ENG 131, MTH 140, ART 103, ART 112, MACRAO Social Science course

First Year, Winter Semester

ENG 132 or 232, MTH 151, ART 152, PHL 232

Second Year, Fall Semester

PHY 231, HUM 131, MACRAO Social Science course, Electives

Second Year, Winter Semester

PHY 232, MACRAO Social Science course, Electives

ENGINEERING

Engineers apply science, mathematics, and professional judgment to solve technical problems in industry and society. Today engineers are expected to contribute more than their technical competence. They are concerned with the impact of their work on society.

SAMPLE CURRICULUM FOR ENGINEERING**First Year, Fall Semester**

ENG 131, MTH 151, CEM141, CPS 175*, EGR 153**

First Year, Winter Semester***

ENG 132, MTH 154, PHL 232, CPS 177

First Year, Spring Semester

ECN 231, Social Science and/or Humanities courses

Second Year, Fall Semester

MTH 251, PHY 251, EGR 261 Second Year, Winter Semester
MTH 254, PHY 252, EGR 262

**Not required but recommended to prepare for CPS 177*

***Not required but strongly recommended*

****Students transferring to Michigan State University take BIO 131*

HEALTH SCIENCES CAREER PATHWAY

This pathway includes careers related to the promotion of health as well as the treatment of injuries, conditions and disease. This may include medicine, dentistry, nursing, therapy and rehabilitation, nutrition, fitness and hygiene and animal health care.

Students in Nursing or Allied Health programs that require clinical rotations at local hospitals will be required to submit to a drug test. If the student tests positive for illicit drugs he/she will be removed from the program. Criminal background checks may also be performed and may prevent admission if failed.

DEGREES/CERTIFICATES**ALLIED HEALTH**

- Diagnostic Medical Sonographer
- Diagnostic Medical Sonographer - Vascular
- Diagnostic Medical Sonographer - Echocardiography
- Emergency Medical Service, Paramedic, EMT
- Medical Assistant

- Medical Receptionist/Transcriptionist
- Medical Receptionist/Insurance Biller
- Radiography

NURSING

- RN (Associate Degree in Nursing, ADN)
- Practical Nurse (LPN)
- LPN to RN

TRANSFER PROGRAMS IN HEALTH SCIENCES PATHWAY

The first two years of college education usually consist of general education courses, introductory courses in the major and/or program of study, and selected electives. Refer to Pages 38-40 for additional information on transfer and MACRAO. Academic advisors will assist students in planning their transfer program. They can also provide transfer guide sheets indicating JCC courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included.

MEDICAL LABORATORY TECHNOLOGY:

- A joint program agreement between Jackson Community College and Kellogg Community College - [AAS]
- Allied Health with Siena Heights JCC & University of Michigan - [BSN]
- Dental Hygiene
- Medical Sciences [pre-medicine, pre-dentistry, pre-chiropractic]
- Physical Therapy
- Pre-Veterinary Science

DIAGNOSTIC MEDICAL SONOGRAPHY — ASSOCIATE IN APPLIED SCIENCE

A sonographer is the allied health professional who, for diagnostic purposes, uses high frequency sound waves to create cross-sectional images of the patient's anatomy. Sonographers work in professional harmony with both the radiologist and the clinical physician. Sonographers are required to demonstrate a great deal of independent judgment.

The diagnostic medical sonography (DMS) program is one of only 80+ accredited by the Commission for Accreditation of Allied Health Educational Programs (CAAHEP) in the United States. It is a two-year program leading to an Associate in Applied Science degree. Prerequisite work must be completed prior to acceptance to the program. The curriculum consists of integrated educational and clinical course work with a

minimum of 1,350 supervised clinical hours in an approved clinical education affiliate.

The program prepares the student for employment in the field of DMS; positions are located within hospitals, medical clinics and other diagnostic imaging institutions. Upon successful completion, students are eligible to write the American Registry of Diagnostic Medical Sonography (ARDMS) exams. Satisfactory completion of the ARDMS board certifying exams allows the sonographer to use the initials of RDMS (Registered Diagnostic Medical Sonographer).

Applicants who have earned credentials in other allied health disciplines (e.g., RT, RVT, RDCS, RN) may have the one year of prerequisite work waived and receive higher admission priority, except for DMS 104. Applications must be received by the program director no later than January 31 for Spring term entry.

Applications are processed according to the following timeline:

- Applications must be received by the program director no later than January 31.
- Questionnaires sent to applicants by February 15.
- Questionnaires returned no later than first week of March.
- DMS Admission Committee confers third week of March.
- Applicants notified by mail no later than April 15th for Spring semester start.

Anatomy and Physiology and Introduction to Sonographic Instrumentation must be completed with a grade of 3.0 or higher prior to the admission process of Winter semester.

Minimum credits:	76
Minimum cumulative GPA:	2.0
Minimum grade:	3.0 in BIO 155, HOC 130 and DMS 104
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (18 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
• or 232 Technical & Business Writing	3

MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra	3
• or higher level mathematics course	

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology	5
------------------------------------	---

SOCIAL SCIENCE — (3-4 credits)

PSY 140 Introduction to Psychology	4
------------------------------------	---

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

ALLIED HEALTH RELATED REQUIREMENTS — (18 credits)

DMS 100 Introduction to Diagnostic Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
HOC 130 Introduction to Health Occupations	3
ITE 101 Information Technology Education	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals	3

DMS CORE — (40 credits)

(2.0 required for each course)

DMS 101 Sonographic Orientation	3
DMS 105 Sonographic Technique	3
DMS 110 Interpretation I	4
DMS 122 Clinical Experience I	6
DMS 206 Sonography Instrumentation	4
DMS 211 Interpretation II	4
DMS 212 Interpretation III	4
DMS 223 Clinical Experience II	6
DMS 224 Clinical Experience III	6

MULTI-SKILLED ELECTIVES —**(Not Required for the Degree)**

MOA 211 Medical Assistant Techniques II	4
NUR 121 Pharmacology	3
LPN 132 Medications	3

**DIAGNOSTIC MEDICAL SONOGRAPHY
— CERTIFICATE**

Minimum credits:	52
Minimum cumulative GPA:	2.0
Minimum JCC credits:	42
MACRAO agreement:	No

**REQUIREMENTS FOR A CERTIFICATE IN DIAGNOSTIC
MEDICAL SONOGRAPHY**

Students must have previously earned American Registry of Diagnostic Medical Sonography (ARDMS) credentials, e.g., RDMS, RVT, RDCS; or an AAS degree from an accredited program in radiography, nursing, medical assisting, emergency medical services, respiratory therapy, physical therapy assisting or other allied health profession. Students who have earned a baccalaureate degree in a major other than nursing or allied health will be required to meet or show equivalency for all DMS prerequisite course requirements including the following courses: Anatomy and Physiology, Medical Terminology, Introduction to Diagnostic Medical Imaging, Introduction to Sonographic Instrumentation, Information Technology Education and Introduction to Health Occupations. Please see program coordinator to assure eligibility.

**ALLIED HEALTH RELATED REQUIREMENTS —
(12 credits)**

DMS 100* Intro to Diagnostic Medical Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
HOC 130** Introduction to Health Occupations	3
ITE 101 Information Technology Education	3

DMS CORE — (40 credits)**(2.0 required for each course)**

DMS 101 Sonographic Orientation	3
DMS 105 Sonographic Techniques	3
DMS 110 Sonographic Interpretation I	4
DMS 122 Clinical Experience I	6
DMS 206 Sonographic Instrumentation	4
DMS 211 Sonographic Interpretation II	4
DMS 212 Sonographic Interpretation III	4
DMS 223 Clinical Experience II	6
DMS 224 Clinical Experience III	6

MULTI-SKILLED ELECTIVES —**(Not Required for the Degree)**

MOA 211 Medical Assistant Techniques II	4
NUR 121 Pharmacology	3
LPN 132 Medications	3

**This course may be waived for registered radiographers.*

***This course is required of students who do not possess an allied health credential but have earned a baccalaureate degree in a major other than allied health.*

SAMPLE CURRICULUM FOR DMS**Spring/Summer**

DMS 101, MOA 211

Fall

DMS 105, DMS 110, DMS 122

Winter

DMS 206, DMS 211, DMS 223

Spring/Summer

DMS 212, DMS 224, LPN 132 or NUR 121

**DIAGNOSTIC MEDICAL SONOGRAPHY
VASCULAR TECHNOLOGY —
ASSOCIATE IN APPLIED SCIENCE**

A vascular sonographer is a highly skilled allied health professional who performs arterial and venous diagnostic procedures using high frequency sound waves. A vascular sonographer operates a variety of complex diagnostic and monitoring equipment, as well as numerous ancillary devices.

The vascular sonographer performs carotid duplex scanning, lower and upper Doppler examinations, venous duplex scans, evaluation of test results, monitoring of physiological states of the patient, conducting patient education, and maintaining accurate records and protocols during and after procedures.

The vascular technology program is a two-year program leading to an associate in applied science degree. Prerequisite work must be completed prior to acceptance to the program. The curriculum consists of integrated educational and clinical course work with a minimum of 900 supervised clinical hours with an approved clinical education affiliate. The program is designed to prepare the student for employment in the field of vascular sonography. Vascular positions are located within hospitals, medical clinics, and other diagnostic imaging health institutions. Upon successful completion, students are eligible to write the American Registry of Diagnostic Medical Sonography exams and, if successful, use the credentials RVT (Registered Vascular Technologist).

Applicants who have earned credentials in other allied health disciplines (e.g., RT, RDMS, RDCS, RN) may have prerequisite work waived and receive higher admission priority.

Applications are processed according to the following timeline:

- Applications must be received by the program director no later than January 31.
- Questionnaires should be sent to applicants by mid February.
- Questionnaires must be returned no later than the first week in March.
- DMS Admission Committee confers third week of March.
- Applicants notified by mail no later than April 15 for Spring semester start.

BIO 155-Human Anatomy and Physiology, HOC 130-Intro to Health Occupations and DMS 104-Intro to Sonographic Instrumentation must be completed with a grade of 3.0 or higher prior to the admission process of Winter semester.

Minimum credits:	.68
Minimum cumulative GPA:	2.0
Minimum grade:	3.0 in BIO 155, HOC 130 and DMS 104
Minimum JCC credits:	.12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (18 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3-4 credits)

MTH 131 Intermediate Algebra or higher	3-4
--	-----

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology	5
------------------------------------	---

SOCIAL SCIENCE — (3-4 credits)

PSY 140 Introduction to Psychology	3-4
------------------------------------	-----

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3

MUS 151 Music I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Technique	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

ALLIED HEALTH CORE — (18 credits)

DMS 100 Introduction to Diagnostic Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
HOC 130 Introduction to Health Occupations	3
ITE 101 Information Technology Education	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals	3

VASCULAR CORE — (32 credits)

(2.0 required for each course)

DMS 107 Sonographic Orientation-Vascular	3
DMS 151 Peripheral Arterial I	3
DMS 152 Peripheral Arterial II	3
DMS 155 Peripheral Venous	3
DMS 161 Vascular Clinical I (300 hours)	4
DMS 206 Sonographic Instrumentation	4
DMS 251 Cerebrovascular I	3
DMS 253 Cerebrovascular II	1
DMS 265 Vascular Clinical II (300 hours)	4
DMS 266 Vascular Clinical III (300 hours)	4

SAMPLE CURRICULUM FOR DMS VASCULAR TECHNOLOGY AAS

Spring Semester

DMS 107

Fall Semester

DMS 151, DMS 155, DMS 161

Winter Semester

DMS 152, DMS 206, DMS 251, DMS 265

Spring Semester

DMS 253, DMS 266

DIAGNOSTIC MEDICAL SONOGRAPHY VASCULAR TECHNOLOGY — CERTIFICATE

Students must have previously earned American Registry of Diagnostic Medical Sonography (ARDMS) credentials, e.g., RDMS, RVT, RDCS; or an AAS degree from an accredited program in radiography, nursing, medical assisting, emergency medical services, respiratory therapy, physical therapy assisting or other allied health profession. Students who have earned a baccalaureate degree in a major other than nursing or allied health will be required to meet or show equivalency for all DMS pre-requisite course requirements including the following courses: Anatomy and Physiology, Medical Terminology, Introduction to Diagnostic Medical Imaging, Introduction to Sonographic Instrumentation, Information Technology Education and Introduction to Health Occupations. Please see program coordinator to assure eligibility.

Minimum credits:	44*
(*32 credits with previous Allied Health degree)	
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

ALLIED HEALTH CORE — (12 credits)

DMS 100* Introduction to Diagnostic Imaging	3
DMS 104* Intro to Sonographic Instrumentation	3
ITE 101 Information Technology Education	3
HOC 130* Introduction to Health Occupations	3

VASCULAR CORE — (32 credits)

(2.0 required for each course)

DMS 107* Sonographic Orientation-Vascular	3
DMS 151 Peripheral Arterial I	3
DMS 152 Peripheral Arterial II	3
DMS 155 Peripheral Venous	3
DMS 206 Sonographic Instrumentation	4
DMS 251 Cerebrovascular I	3
DMS 253 Cerebrovascular II	1
DMS 161 Vascular Clinical I (300 hours)	4
DMS 265 Vascular Clinical II (300 hours)	4
DMS 266 Vascular Clinical III (300 hours)	4

**HOC 130, DMS 100, 107, and 104 may be waived through consultation with program coordinator and evidence of current health credential.*

SAMPLE CURRICULUM FOR DMS VASCULAR CERTIFICATE

Spring Semester

DMS 107

Fall Semester

DMS 151, DMS 155, DMS 161

Winter Semester

DMS 152, DMS 251, DMS 206, DMS 265

Spring Semester

DMS 253, DMS 266

DIAGNOSTIC MEDICAL SONOGRAPHY ECHOCARDIOGRAPHY— ASSOCIATE IN APPLIED SCIENCE

An echocardiographer is the allied health professional who, after an extensive and comprehensive educational process, is qualified to perform an echocardiographic exam. The primary role of the cardiac sonographer is to obtain diagnostic recordings and measurements from the ultrasound image of the heart, including hemodynamic information. This individual assumes great responsibility for the performance of this exam and the techniques for obtaining these recordings require great skill. A thorough understanding of cardiac anatomy, physiology, hemodynamics, and pathophysiology is required.

The echocardiography program (DMS-Echocardiography) is a two-year program leading to an Associate in Applied Science degree. Prerequisite work must be completed prior to acceptance to the program. The curriculum consists of integrated didactic and clinical course work with a minimum of 1136 supervised clinical hours with an approved clinical education affiliate. The program is designed to prepare the student for employment in the field of echocardiography; positions are located within hospitals, medical clinics, and other diagnostic imaging health institutions. Upon successful completion, students are eligible to write the American Registry of Diagnostic Medical Sonography-Adult Echocardiography certification exams and, if successful, use the credentials RDCS AE (Registered Diagnostic Cardiac Sonographer, Adult Echocardiography).

Applicants who have earned credentials in other allied health disciplines (e.g., RT, RDMS, RVT, RN) may have prerequisite work waived and receive higher admission priority.

Applications are processed according to the following time line:

- Applicants must be received by the program director no later than August 31.
- Questionnaires sent to applicants by mid September.
- Questionnaires returned no later than the first week in October.

- DMS Admissions Committee interviews candidates the first week of November.
- Applicants are notified by mail no later than December 1st for winter semester start.

Minimum credits:	69
Minimum cumulative GPA:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 110:	3.0
Minimum grade in DMS 104:	2.0
Minimum grade in Echo Core courses:	2.0
Minimum JCC credits:	32
MACRAO agreement:	No

GENERAL EDUCATION PREREQUISITES — (18 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra	4
• or higher level mathematics course	

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology	5
------------------------------------	---

SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	4
------------------------------------	---

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (18 credits)

DMS 100 Intro to Diagnostic Medical Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals	3
ITE 101 Intro to Information Technology	3
HOC 130 Intro to Health Occupations	3

The following courses must be completed with a grade of 3.0 or higher prior to the admission process:

- BIO 155 - Anatomy & Physiology
- HOC 130 - Intro to Health Occupations
- MOA 110 - Medical Terminology
- DMS 104 - Intro to Sonographic Instrumentation must be completed with a grade of 2.0 or higher prior to admission into the program.

ECHOCARDIOGRAPHY CORE — (33 credits)

(2.0 required for each course.)

Core classes begin in the winter semester.

DMS 140 Sonographic Orientation and Technique	3
DMS 141 Adult Echo I	4
DMS 143 Clinical I (240 hrs.)	3
DMS 144 Cardiovascular Principles	3
DMS 147 Clinical II (384 hrs.)	5
DMS 240 Adult Echo II	4
DMS 242 Clinical III (512 hrs.)	7
DMS 206 Sonographic Instrumentation	4

SUGGESTED COURSE SEQUENCE

Fall Semester

DMS 104, HUM 131, PSY 140, MOA 110

Spring/Summer Semester

MTH 131, DMS 100, HPF 160

Winter Semester

DMS 140, DMS 141, SPH 231, DMS 143

Winter Semester

HOC 130, BIO 155, ENG 131, ITE 101

Spring/Summer

DMS 144, DMS 147

Fall Semester

DMS 206, DMS 240, DMS 242

DIAGNOSTIC MEDICAL SONOGRAPHY ECHOCARDIOGRAPHY — CERTIFICATE

Students must have previously earned American Registry of Diagnostic Medical Sonography (ARDMS) credentials, e.g., RDMS, RVT, or an AAS degree from an accredited program in radiography, nursing, medical assisting, emergency medical services, respiratory therapy, physical therapy or other allied health profession. Students who have earned a Baccalaureate Degree in a major other than nursing or allied health will be required to meet or show equivalency for all DMS pre-requisite course requirements including the following courses: Anatomy & Physiology, Medical Terminology, Intro to Diagnostic Medical Imaging, Introduction to Sonographic Instrumentation, Information Technology Education and Introduction to Health Occupations. Please see program coordinator to assure eligibility.

The curriculum consists of integrated didactic and clinical course work with a minimum of 1136 supervised clinical hours with an approved clinical education affiliate. The program is designed to prepare the student for employment in the field of echocardiography. Upon successful completion, students are eligible to write the American Registry of Diagnostic Medical Sonography-Adult Echocardiography certification exams and, if successful, use the credentials RDCS AE (Registered Diagnostic Cardiac Sonographer, Adult Echocardiography).

Minimum credits:	45
(36 credits with previous Allied Health degree)	
Minimum Cumulative GPA:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 110:	3.0
Minimum grade in DMS 104:	2.0
Minimum grade in Echo Core courses:	2.0
Minimum JCC credits:	32
MACRAO agreement:	No

RELATED REQUIREMENTS — (12 credits)

DMS 100* Intro to Diagnostic Imaging	3
DMS 104* Intro to Sonographic Instrumentation	3
ITE 101 Intro to Information Technology	3
HOC 130* Intro to Health Occupations	3

**May be waived/substituted through consultation with program coordinator and evidence of current health credential.*

ECHOCARDIOGRAPHY CORE — (33 credits) (2.0 required for each course)

Core classes begin in winter semester.

DMS 140 Echo Orientation & Technique	3
DMS 141 Adult Echo I	4
DMS 143 Clinical I (240 hrs)	3
DMS 144 Cardiovascular Principles	3

DMS 147 Clinical II (384 hrs)	5
DMS 240 Adult Echo II	4
DMS 242 Clinical III (512 hrs)	7
DMS 206 Sonographic Instrumentation	4

COURSE SEQUENCE FOR A CERTIFICATE IN ECHOCARDIOGRAPHY

Winter Semester:

DMS 140, DMS 141, DMS 143, ITE 101

Spring/Summer:

DMS 144, DMS 147

Fall Semester:

DMS 206, DMS 240, DMS 242

EMERGENCY MEDICAL SERVICES — ASSOCIATE IN APPLIED SCIENCE

In cooperation with emergency medical services agencies in the community we offer approved Basic EMT and Paramedic courses. Each program (Basic EMT and Paramedic) requires 12-36 hours and is taken over two or three semesters. These credits may be combined with additional courses to obtain an Associate in Applied Science - Emergency Medical Services degree. The curriculum meets the requirements of the U.S. Department of Transportation and is approved by the Michigan Department of Consumer and Industry Services.

Upon successful completion of the program, candidates are eligible to take the State of Michigan EMT or Paramedic exams to become licensed as an EMT or Paramedic.

Minimum credits:	84
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (20 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS — (4 credits)

MTH 131 Intermediate Algebra	4
------------------------------------	---

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology	5
--	---

SOCIAL SCIENCE — (4 credits)

PSY 140 Introduction to Psychology	4
--	---

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (20 credits)

MOA 110 Medical Terminology	2
EMS 125 EMT: Ambulance	6
EMS 126 EMT: Ambulance	6
NUR 121 Pharmacology	3
SPH 231 Communication Fundamentals	3

PARAMEDIC CORE REQUIREMENTS — (44 credits)

EMS 211 Paramedic I	8
EMS 212 Paramedic Lab I	2
EMS 213 Paramedic Clinical I	2
EMS 221 Paramedic II	8
EMS 222 Paramedic Lab II	2
EMS 223 Paramedic Clinical II	2
EMS 231 Paramedic III	8
EMS 232 Paramedic Lab III	2
EMS 233 Paramedic Clinical III	2
EMS 242 Paramedic IV - Lab	2
EMS 243 Paramedic IV - Clinical	6

**EMERGENCY MEDICAL SERVICES —
CERTIFICATE**

Minimum credits:	67
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

EMERGENCY MEDICAL SERVICES CORE**REQUIREMENTS — (50 credits)**

EMS 125 EMT: Ambulance	6
EMS 126 EMT: Ambulance	6
EMS 211 Paramedic I	8
EMS 212 Paramedic Lab I	2
EMS 213 Paramedic Clinical I	2
EMS 221 Paramedic II	8
EMS 222 Paramedic Lab II	2
EMS 223 Paramedic Clinical II	2
EMS 231 Paramedic III	8
EMS 232 Paramedic Lab III	2
EMS 233 Paramedic Clinical III	2
EMS 242 Paramedic IV - Lab	2
EMS 243 Paramedic IV - Clinical	6
BIO 155 Human Anatomy & Physiology	5
MOA 120 Medical Terminology	3
NUR 121 Pharmacology	3

**SKILL SET CREDENTIAL — BASIC
EMERGENCY MEDICAL TECHNICIAN**

Jackson Community College in cooperation with emergency medical service agencies in the community offers approved Basic EMT. The basic EMT program requires 12 credit hours and is taken over two semesters. The curriculum meets the requirements of the U.S. Department of Transportation and is approved by the Michigan Department of Consumer and Industry Services.

Upon successful completion of the program, candidates are eligible to take the State of Michigan exam to become a licensed EMT or Paramedic.

Minimum credits:	12
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

EMT BASIC COURSES — (12 credits)

EMS 125 EMT: Ambulance	6
EMS 126 EMT: Ambulance	6

SUGGESTED ELECTIVES

MOA 110 Medical Terminology	2
MOA 141 Body Structure and Function	4

SPH 240 Interpersonal Communication	3
• or SPH 231 Communication Fundamentals	3

MEDICAL ASSISTANT — ASSOCIATE IN APPLIED SCIENCE

Prepares the student for an entry-level position as a medical assistant in a medical office, clinic, hospital or other health care facility. Clinical (patient care) and administrative (business) skills are included in the course work as well as medical and business theory. On-the-job experience is provided by a 225- hour non-paid externship with a licensed health care practitioner.

Upon completion of the program, the student is eligible to take the American Association of Medical Assistant (AAMA) certification exam to become a Certified Medical Assistant (CMA). This program is fully accredited by AAMA and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The student may enter any semester part-time or full-time. Program coordinator approval is required to register for MOA 204 Externship and Seminar.

ENTRANCE REQUIREMENTS

Must be met before beginning program Course placement assessment* or during the first semester: MOA 141 Body Structure and Function or LPN 141 Body Structure and Function or BIO 155 Human Anatomy and Physiology. Validated typing skills 45 WPM or keyboarding class. Meet with program coordinator/advisor before or during the first semester enrolled.

Minimum credits:	67
Minimum grades:	2.5
(in MOA 111, MOA 120, MOA 211 and 2.0 in all other courses)	
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (14 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS

Must complete one of the three following math options:

1. ACT composite score of 18 and ACT math score of 18 or
2. Successfully pass JCC mathematics assessment or
3. Complete MTH 110 Pre-Algebra with a 2.0 or higher

SCIENCE — (4 credits)

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 220 Microbiology	4

CEM 121 Chemistry for Life	4
CEM 131 General Chemistry	4
CEM 132 Organic and Biological Chemistry	4
NSC 131 Contemporary Science	4

SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	4
--	---

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story and Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

RELATED REQUIREMENTS — (25 credits)

ACC 211 General Accounting	4
DMS 100 Intro to Diagnostic Imaging	3
ITE 101 Information Technology Education	3
NUR 121 Pharmacology	3
• or LPN 132 Medications	3
PSY 140 Introduction to Psychology	4
SEC 230 Machine Transcription for Medical Assistants	2
SEC 241 Medical Office Procedures	3
SPH 231 Communication Fundamentals	3
• or SPH 240 Interpersonal Communication	3

MEDICAL ASSISTANT CORE REQUIREMENTS — (28 credits)

MOA 111 Medical Assistant Techniques I	3
MOA 112 Insurance, Reports, Law and Ethics	3
MOA 120 Medical Terminology	3
MOA 141 (or LPN 141) Body Structure & Functions	4
• or BIO 155 Human Anatomy & Physiology	5
MOA 145 (or LPN 145 or NUR 207) Normal/Therapeutic Nutrition	3
MOA 204 Externship (230 hours + 30 hr. seminar)*	5
MOA 211 Medical Assistant Techniques II	4
MOA 241 Medical Records	3

ADDITIONAL REQUIREMENTS

EMS 110 CPR & First Aid	2
• or current Adult CPR & First Aid Certification	
• or HOC 130 Intro to Health Occupations	3

** Program Coordinator approval required to register for MOA 204. Student must validate 2.5 or better in MOA 120, MOA 111, and MOA 211 to qualify for entrance into this course.*

SAMPLE CURRICULUM FOR AN ASSOCIATE IN APPLIED SCIENCE MEDICAL ASSISTANT**Fall Semester I (13 credits)**

MOA 112, MOA 141, ITE 101, ENG 131

Winter Semester II (16 credits)

MTH 110, DMA 100, MOA 120, MOA 111, MOA 211

Spring Semester III (12 credits)

ACC 211, PSY 140, HPF course, HUM course

Fall Semester IV (15 credits)

MOA 145, SEC 241, EMS 110 (or HOC 130), LPN 132 (or NUR 121), Science course

Winter Semester V (16 credits)

SEC 230, SPH 231 (or SPH 240), MOA 241, MOA 204

MEDICAL ASSISTANT — CERTIFICATE

The certificate in medical assisting prepares the student for an entry-level position as a medical assistant in a medical office, clinic, hospital or other health care facility. Clinical (patient care) and administrative (business) skills are included in the course work as well as medical and business theory. On-the-job experience is provided by a 230-hour non-paid externship with a licensed health care practitioner. Upon completion of the program, the student is eligible to take the American Association of Medical Assistant (AAMA) certification exam to become a Certified Medical Assistant (CMA). This program is

fully accredited by AAMA and the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The student may enter any semester part-time or full-time. Program coordinator approval is required for registration in MOA 204 Externship and Seminar.

Minimum credits:	41
Minimum grades:	2.5
(in MOA 111, MOA 120, MOA 211 and 2.0 in all other courses)	
Minimum JCC credits:	12
MACRAO agreement:	No

ENTRANCE REQUIREMENTS

Pre-entrance: ACCUPLACER criteria met for Reading, Writing, and MTH 110 or Equivalency, Keyboarding skills 45 WPM.

MATHEMATICS

Must complete one of the three following math options:

1. ACT composite score of 18 and ACT math score of 18 or
2. Successfully pass JCC mathematics assessment or
3. Complete MTH 110 Pre-Algebra with a 2.0 or higher

RELATED REQUIREMENTS — (13 credits)

ITE 101 Intro to Information Technology	3
NUR 121 Pharmacology	3
• or LPN 132 Medications	3
PSY 140 Introduction to Psychology	4
SEC 241 Medical Office Procedures	3

MEDICAL ASSISTANT CORE REQUIREMENTS — (28 credits)

MOA 111 Medical Assistant Techniques I	3
MOA 112 Insurance, Reports, Law & Ethics	3
MOA 120 Medical Terminology	3
MOA 141 (or LPN 141) Body Structure & Function	4
• or BIO 155 Human Anatomy & Physiology	5
MOA 145 (or LPN 145 or NUR 207) Normal/Therapeutic Nutrition	3
MOA 204 Externship (230 hours + 30 hr. seminar)*	5
MOA 211 Medical Assistant Techniques II	4
MOA 241 Medical Records	3

ADDITIONAL REQUIREMENTS

EMS 110 CPR & First Aid	2
• or current Adult CPR & First Aid Certification	
• or HOC 130 Intro to Health Occupations	3

** Program coordinator approval needed to register for MOA 204. Student must validate 2.5 or better in MOA 120, MOA 111, and MOA 211 for entrance into this course.*

SUGGESTED ELECTIVES

DMS 100 Intro to Diagnostic Imaging	3
ACC 211 Intro to Accounting	4
SPH 231 Communication Fundamentals	3
• or SPH 240 Interpersonal Communication	3
MOA 242 Advanced Medical Billing	3
SEC 230 Machine Transcription for Medical Assistants	2

SAMPLE CURRICULUM FOR MEDICAL ASSISTANT CERTIFICATE**Fall Semester I (15 credits)**

MOA 141, MOA 112, ITE 101, MOA 145, EMS 110 (or HOC 130)

Winter Semester II (16 credits)

MOA 111, MOA 120, MOA 211, MOA 241, SEC 241

Spring Semester III (12 credits)

PSY 140, NUR 121 (or LPN 132), MOA 204

Take AAMA/CMA exam in January, apply by October 1, if finished with all requirements for Certificate by December 31st.

MEDICAL RECEPTIONIST/TRANSCRIPTIONIST— CERTIFICATE

This certificate program develops the conceptual understanding and practical skills applicable to the administrative (office) aspect of medical practice. Course work includes the study of the human body, medical terminology, office organization, reception, telephone use, insurance billing, communication skills, record keeping, law and ethics, billing and advanced medical machine transcription, introduction to computers and word processing. The graduate of this program has sufficient training for entry level as a transcriptionist, records clerk and receptionist in a medical setting. Exceptional typing (60 WPM or more) and medical terminology skills are needed for hospital transcribing. This should be emphasized in course choices, if this is the student's goal. Program coordinator approval is required to register for MOA 245 Billing/Transcription Externship. On the job experience is provided through a non-paid externship of 125 hours.

Prerequisite requirements: Before beginning this certificate the student must complete all the course placement requirements and type a minimum of 45 WPM or complete SEC 131, Beginning Typing. The student may enter during any semester and attend either part-time or full-time.

Minimum credits:	31
Minimum cumulative GPA:	2.0
Minimum Grades: 2.5 or better in MOA 120, SEC 230, SEC 235	
Minimum JCC credits:	12
MACRAO agreement:	No

SEMESTER I — (15 credits)

ITE 101 Information Technology Education	3
MOA 120 Medical Terminology(2.5 or better)	3
MOA 112 Insurance Reports, Law and Ethics	3
MOA 141 Body Structure and Function	4
• or BIO 155 Human Anatomy and Physiology	5
ENG 131 Writing Experience	3

SEMESTER II — (11 credits)

ITE 186 Microsoft Word	3
SEC 230 Machine Transcription for Medical Assistants (2.5 or better)	2
SPH 240 Interpersonal Communications	3
• or BUS 155 Human Relations in Business	3
• or SPH 231 Communication Fundamentals	3
SEC 241 Medical Office Procedures	3

SEMESTER III — (5 credits)

SEC 235 Advanced Medical Machine Transcription (2.5 or better)	3
MOA 245* Billing/Transcription Externship	2
Suggestive Elective NUR 121 Pharmacology	3
LPN 132 Medication	3

**Program coordinator approval needed to register for MOA 245. Student must validate a 2.5 or better grade in MOA 120, SEC 230, SEC 235 for entrance into MOA 245.*

MEDICAL RECEPTIONIST/INSURANCE BILLER — CERTIFICATE

The medical receptionist/insurance biller certificate program prepares the student to work in a medical office, clinic or hospital. Emphasis is placed on interpersonal, written and oral communication, office procedures, medical terminology, use of computers, diagnostic and procedure coding and medical insurance billing, record keeping, medical insurance and accounting. On-the-job experience is provided in a 125-hour non-paid externship.

Prerequisite requirements: Before beginning this certificate the student must complete all the course placement requirements and type a minimum of 45 wpm or complete SEC 131, Beginning Typing.

The student may enter any semester part-time or full-time. Program coordinator approval is required to register for MOA 245 Billing/Transcription Externship. The student must validate a 2.5 in SEC 241, MOA 241, and ITE 101 to qualify for externship placement.

Minimum credits:	33
Minimum cumulative GPA:	2.0
Minimum Grades: 2.5 or better in SEC 241, MOA 241, and ITE 101	
Minimum JCC credits:	12
MACRAO agreement:	No

SEMESTER I — (13 credits)

ITE 101 Information Technology Education	3
MOA 112 Insurance Reports, Law and Ethics	3
MOA 141 Body Structure and Function	4
• or LPN 141 Body Structure and Function	4
• or BIO 155 Human Anatomy and Physiology	5

SEMESTER II (12 credits)

ACC 211 General Accounting	4
SEC 241 Medical Office Procedures	3
MOA 241 Medical Records (2.5 or better)	3

SEMESTER III — (3 credits)

SPH 231 Communication Fundamentals	3
• or SPH 240 Interpersonal Communications	3
• or BUS 155 Human Relations in Business	3

SEMESTER IV — (5 credits)

MOA 242 Advanced Medical Billing (2.5 or better)	3
MOA 245 Billing/Transcription Externship*	2

SUGGESTED ELECTIVES

NUR 121 Pharmacology	3
LPN 132 Medication	3

**Program coordinator approval needed to register for MOA 245. Student must validate 2.5 or better in MOA 241, SEC 241, and ITE 101 for entrance into this course*

NURSING

Nursing is a dynamic and changing field with broader employment opportunities than ever before. It is expected to have one of the largest number of new job openings in the next decade. Many future nurses will be employed in home health, long-term or ambulatory care, although nursing careers are still available in traditional settings such as hospitals, medical offices and clinics. Program options reflect the variety of career paths available to future nursing professionals.

JCC PROGRAM CHOICES

- Nursing, JCC & University of Michigan - Bachelor of Science in Nursing
- Nursing, RN - Associate in Applied Science
- Nursing, LPN to ADN - Associate in Applied Science
- Practical Nurse - Certificate

Note: Students who wish to begin a bachelor's degree in nursing and transfer to a four-year college or university (other than those in the JCC/U of M program) should contact the university where they are planning to transfer.

NURSING — ASSOCIATE IN APPLIED SCIENCE

The Associate in Applied Science, Nursing (ADN) program is a two-year program consisting of integrated lectures, labs, and clinicals conducted in approved clinical education affiliates. The program prepares students to demonstrate competency in providing nursing care in a variety of health care settings and for employment in the field of registered nursing. Candidates successfully completing the ADN program are eligible to apply for the licensing examination required for licensure as a registered professional nurse (RN).

There are special admission requirements to the nursing program and it is the student's responsibility to understand the requirements and adhere to them. Students must meet all admission requirements. It is required that all students entering the ADN program take the Course Placement Assessment, ACT or SAT, unless otherwise exempt. If, as a result, basic courses are required, they must be taken and completed with at least a grade of 2.0 prior to admission to the program.

Entry into the program is competitive and based on completion of Course Placement requirement(s), prerequisite courses and a competitive point system. Competitive points are based on grades earned in general education, nursing prerequisite and other related courses completed. NOTE: Check "The Point System" on the "ADN Selection Process-Worksheet" regarding values of points for designated grades. Contact an advisor in Student Services for further information and assistance. ADN prerequisite courses are listed below.

Students are required to take the NCLEX Review Program as part of the curriculum in order to graduate. Multiple standardized exams are also required at various points.

Minimum credits:	72
Minimum cumulative GPA:	2.0
Minimum grades:	3.0
in BIO 155 & CEM 121 or 132, and 2.0 in all other required courses.	
Minimum JCC credits:	41
MACRAO agreement:	No

Prerequisites MUST be completed prior to beginning the program.

PREREQUISITE COURSES

CEM 121 Chemistry of Life	4
• or CEM 132 Organic and Biological Chemistry (3.0 or higher)	4
ENG 131 Writing Experience	3
PSY 140 Introduction to Psychology	4
BIO 220 Microbiology	4
BIO 155 Human Anatomy & Physiology (3.0 or higher)	5

** Highly recommended to take CEM or BIO 220 prior to BIO 155. BIO 155, Human Anatomy & Physiology, must be taken within the last 8 years. Nursing courses MUST be taken in sequence, with the exception of Pharmacology. Students are required to take the NET Test and NCLEX review course as part of the curriculum in order to graduate.*

Students may apply to be admitted for a fall or winter start of this program. Call Nursing Admissions at 796-8424 to receive a complete information packet. An academic advisor must be consulted to apply to the program.

GENERAL EDUCATION REQUIREMENTS — (16 credits) *

All Course Placement Requirements Must Be Satisfied

**It is recommended that General Education requirements be taken before the nursing sequence of courses.*

ENGLISH — (3 credits)

ENG 131 Writing Experience 3

MATHEMATICS

All students interested in the nursing program must complete one of the three following math options:

1. ACT composite score of 18 and math score of 18 or
2. Successfully pass JCC course placement mathematics assessment or
3. Complete MTH 110 with a 2.0 or higher.

SCIENCE — (5 credits - 3.0 of higher in the course)

BIO 155 Human Anatomy & Physiology 5

SOCIAL SCIENCE — (4 credits)

PSY 140 Introduction to Psychology 4

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400 3
 ART 112 Art History: Renaissance - Present 3
 ENG 210 Introduction to Film 3
 ENG 236 Women in Changing Society 3
 ENG 246 Short Story & Novel 3
 ENG 247 Poetry and Drama 3
 ENG 249 African American Literature 3
 ENG 252 Shakespeare 3
 ENG 254 Children's Literature 3
 ENG 255 American Literature 19th Century 3
 ENG 256 American Literature 20th Century 3
 ENG 257 World Literature I 3
 HUM 131 Cultural Connections 3

MUS 130 Survey of Non-Western Music 3
 MUS 131 Understanding Music 3
 MUS 133 Music Education 3
 MUS 151 Music Theory I 4
 MUS 152 Music Theory II 4
 PHL 231 Introduction to Philosophy 3
 PHL 232 Logic 3
 THR 116 Introduction to Theatre 3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness 1
 HPF 168 Weight Training & Conditioning 2
 HPF 221 Jazz Techniques 3
 HPF 277 Stress Management 2

RELATED REQUIREMENTS (11 credits)

BIO 220 Microbiology 4
 CEM 121 Chemistry of Life 4
 • or CEM 132 Organic & Biological Chemistry
 (3.0 or higher in the course) 4

PSY 252 Developmental Psychology 3

NURSING CORE REQUIREMENTS (45 credits)

NUR 101 Fundamentals of Nursing 6
 NUR 121 Pharmacology 3
 NUR 170 Self-Care 1
 NUR 242 Physical Assessment 1
 • or NUR 245 Health Assessment 3
 NUR 171 Supportive Educative Nursing 4
 NUR 172 Pathophysiology 4
 NUR 173 Family I 4
 NUR 270 Partially Compensatory 4
 NUR 271 Family II 4
 NUR 272 Mental Health 5
 NUR 273 Wholly Compensatory 5
 NUR 274 Leadership 4

SAMPLE CURRICULUM FOR NURSING (ADN) AAS

Semester I

NUR 101, NUR 170, NUR 242 or NUR 245, PSY 252, NUR 121

Semester II

NUR 171, NUR 172, NUR 173, HPF**

Semester III

NUR 270, NUR 271, NUR 272

Semester IV

NUR 273, NUR 274, Humanities elective**

1. PSY 252 may be taken prior to Semester I but must be completed prior to Semester II. This course MUST be completed prior to NUR 173 (Family I) in the nursing sequence.

2. NUR 121 if not completed prior to admission into the program, MUST be taken during Semester I-concurrent with NUR 101.

Recommend completion of Developmental Psychology and Pharmacology prior to entry into the nursing program.

**** Nursing courses are not offered during Spring semester. Students can complete general education requirements during this time. It is highly recommended that general education courses be taken before the nursing course sequence if at all possible.**

NOTE: Nursing courses are assigned various labs and clinicals. Be sure to follow directions in the schedule book of courses each semester you register. The schedule is subject to change on short notice. Specific clinical sites and times cannot be guaranteed.

The Nursing Department reserves the right to change the curriculum and program requirements.

NURSING - LPN TO ADN — ASSOCIATE IN APPLIED SCIENCE

The Associate in Applied Science, Nursing - LPN to ADN program, is a three-semester program, beginning in the Fall Semester. The program consists of integrated lectures, labs, and clinicals conducted in approved clinical education affiliate settings. The program is designed to educate students to provide competent nursing care in a variety of health care settings and for employment in the field of registered nursing. Candidates who successfully complete the LPN to ADN program are eligible to apply for the licensing examination required for licensure as a registered professional nurse (RN).

There are special admission requirements to the LPN to ADN nursing program and it is the student's responsibility to understand the requirements and adhere to them. Students must meet all admission requirements. Candidates entering the LPN to ADN program must have the following: valid Michigan unencumbered LPN license; documented minimum of 1,000 hours of clinical practice as a LPN, (within the last 5 years-prior to start of clinical courses); pass the following competency exam: National League for Nursing (NLN) Foundations of Nursing and Pharmacology NLN exam (or take the course)

LPN to ADN prerequisite courses are listed.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum grades:	2.0 in all required classes
Minimum JCC credits:	29
MACRAO agreement:	No

Prerequisites MUST be completed prior to beginning the program.

PREREQUISITE COURSES

CEM 121 Chemistry of Life	4
• or CEM 132 Organic and Biological Chemistry	4
ENG 131 Writing Experience	3
PSY 140 Introduction to Psychology	4
BIO 220 Microbiology	4
BIO 155 Human Anatomy & Physiology	5

*** Highly recommended to take CEM or BIO 220 prior to BIO 155**

BIO 155 must be taken within the last 8 years. Nursing courses MUST be taken in sequence, with the exception of Pharmacology.

Students are required to take the NCLEX review course as part of the curriculum in order to graduate. Students may apply to be admitted for the fall start of this program. Call Nursing Admissions at 796-8424 to receive a complete information packet and details on NLN testing and associated costs. An academic advisor must be consulted to apply to the program. Advisors are available in Student Services.

GENERAL EDUCATION REQUIREMENTS — (16 credits) *

All course placement requirements must be satisfied prior to admission.

***It is recommended that General Education requirements be taken before the nursing sequence of courses.**

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS

All students interested in the nursing program must complete one of the three following math options:

1. ACT composite score of 18 and math score of 18 or
2. Successfully pass JCC course placement mathematics assessment or
3. Complete MTH 110 with a 2.0 or higher.

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology	5
------------------------------------	---

SOCIAL SCIENCE — (4 credits)

PSY 140 Introduction to Psychology	4
------------------------------------	---

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History Prehistoric - 1400	3
--	---

ART 112 Art History: Renaissance - Present	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story and Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2

HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2

RELATED REQUIREMENTS — (11 credits)

BIO 220 Microbiology	4
CEM 121 Chemistry of Life	4
• or CEM 132 Organic & Biological Chemistry	4
PSY 252* Developmental Psychology	3

NURSING CORE REQUIREMENTS (33 credits)

NUR 120 Transition Bridge	3
NUR 121 Pharmacology	3
NUR 170 Self-Care	1
NUR 172 Pathophysiology	4
NUR 270 Partially Compensatory	4
NUR 271 Family II	4
NUR 272 Mental Health	5
NUR 273 Wholly Compensatory	5
NUR 274 Leadership	4

SAMPLE CURRICULUM

Semester I (Fall)

NUR 120, NUR 121*, NUR 170, NUR 172, PSY 252*

Semester II (Winter)

NUR 270, NUR 271, NUR 272, HPF**

Spring Semester

No nursing courses offered. Finish Gen. Ed. Requirements**

Semester III (Fall)

NUR 273, NUR 274, Humanities elective**

** May take before Nursing Sequence but must be completed prior to NUR 270, NUR 271, & NUR 272. Students may test out of NUR 121.*

*** Nursing courses are not offered during Spring Semester. Students can complete general education requirements during this time. It is highly recommended that general education courses be taken before the nursing course sequence if at all possible. NOTE: Nursing courses are assigned various labs and clinicals. Be sure to follow directions in the schedule book of courses each semester you register. The schedule is subject to change on short notice. Specific clinical sites and times cannot be guaranteed.*

The Nursing Department reserves the right to change the curriculum and program requirements.

PRACTICAL NURSE — CERTIFICATE

A one-year program that prepares students to provide direct nursing care, under supervision, to individuals in a variety of health care settings. The program consists of integrated lectures, labs and clinical experiences. Students who successfully complete the curriculum receive the certificate in practical nursing and are eligible to apply to write the state licensing examination required for licensure as a practical nurse (LPN). Admission to the program involves an application process. It is the student's responsibility to understand the requirements and adhere to them. Students must meet all admission requirements. It is required that all students entering the nursing program take the Course Placement Assessment, ACT, or SAT, unless otherwise exempt. If as a result, basic courses are required, they must be taken and completed with at least a grade of 2.0. Admission is on a competitive point system. Points are based on grades earned in prerequisite courses. Call Nursing Admissions at (517) 796-8472 to receive a complete information packet. An advisor must be consulted to apply to the program. Contact an advisor in Student Services.

The Practical Nursing program begins in March of each year. PN classes are on a different course calendar than other classes.

All science classes must be taken within the last eight years. PN courses must be taken in sequence.

Students are required to take a licensure preparation course at JCC as part of their curriculum in order to graduate.

Must complete one of the following three math options:

1. ACT composite of 18 & and ACT math score of 18 or

2. Successfully pass JCC mathematics assessment or
3. Complete MTH 110 with a 2.0 or higher

Minimum credits:	45
Minimum cumulative GPA:	2.0
Minimum grades: ... 2.0 in all prerequisite and nursing classes. HOWEVER - Check "The Point System" on the "PN Selection Process-Worksheet" regarding values of points for designated grades. Admission is competitive and based on grades.	
Minimum JCC credits:	32
MACRAO agreement:	No

PREREQUISITE RELATED REQUIREMENTS — (10 credits)

Prior to acceptance to the program:

LPN 141 Body Structure & Function	4
• or MOA 141 Body Structure & Function	4
• or BIO 155 Human Anatomy & Physiology	5
NUR 207 Normal/Therapeutic Nutrition	3
• or MOA 145 Normal/Therapeutic Nutrition	3
• or LPN 145 Normal/Therapeutic Nutrition	3
LPN 132 Medications	3
• or NUR 121 Pharmacology	3

PRACTICAL NURSING CORE REQUIREMENTS — (35 credits)

Must be completed in sequence shown.

Semester I

LPN 131 Foundations of Nursing	6
MOA 120* Medical Terminology	3

Semester II

LPN 180 Nursing Care of Adults-1A	6
LPN 181 Nursing Care of Adults-1B	6

Semester III

LPN 182 Role of the Practical Nurse	2
LPN 183 Nursing Care of Adults II	6
LPN 184 Maternal/Child Concepts	6

**Preferable to be taken before being admitted to the nursing program. NOTE: Nursing courses include various labs and clinicals, which must be taken in addition to the lectures. Be sure to follow directions in the course schedule book each semester and consult with an academic advisor for guidance. This schedule is subject to change on short notice. Specific clinical sites and times cannot be guaranteed.*

The department reserves the right to change the curriculum and program requirements as necessary.

RADIOGRAPHY PROGRAM

A radiographer is the allied health professional who exposes and develops radiographs of patients and hospitals and various health clinical settings. Another function of the radiographer is to assist the radiology physician (radiologist) in the administration of contrast material to patients in order to enhance the visibility of certain anatomical structure's on a radiograph. It is designed to prepare the student for employment in the field of diagnostic radiography.

The radiography (RAD) program at JCC is accredited by the North Central Association of Colleges and Secondary Schools. It is a two-year program leading to an Associate in Applied Science degree. The curriculum consists of integrated didactic and clinical course work in an approved clinical education affiliate.

It is designed to prepare the student for employment in the field of diagnostic radiography; positions are located within hospitals, medical clinics, and other diagnostic imaging institutions. Upon successful completion, students are eligible to write the American Registry of Radiologic Technologists (ARRT) exams. Satisfactory completion of the ARRT board certifying exams allows the radiographer to use the initials of R.T. (R), Registered Technologist (Radiography).

RADIOGRAPHY — ASSOCIATE IN APPLIED SCIENCE

Students in this program are required to satisfy the college core curriculum as well as the core curriculum required by the Radiography Program. There are four prerequisite classes for the program, with students being allowed to take the college core curriculum while in the program.

Applicants must complete DMS 100, BIO 155, HOC 130 and MOA 110 before admission to the program. Applications must be received by the program director no later than January 31st. RAD Admission Committee confers the first week of April. Applicants are notified by mail no later than April 30th for Spring/Summer semester start.

Minimum credits:	81
Minimum cumulative GPA:	2.0
Minimum grades: 3.0 in DMS 100, HOC 130 & MOA 110 and 2.0 in BIO 155	
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (18 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
• or ENG 232 Technical and Business Writing	3

MATHEMATICS — (3-4 credits)

MTH 131 Intermediate Algebra	3-4
• or higher level mathematics course	

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology	5
------------------------------------	---

SOCIAL SCIENCE — (3-4 credits)

PSY 140 Introduction to Psychology	3-4
------------------------------------	-----

HUMANITIES — (3 credits)**Choose one of the following:**

ART 111 Art History: Prehistoric-1400	3
ART 112 Art History: Renaissance-Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 247 Poetry & Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Techniques	3
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

ALLIED HEALTH RELATED REQUIREMENTS — (20 credits)

HOC 130 Introduction to Health Occupations	3
ITE 101 Intro to Information Technology Education	3
DMS 100 Intro to Diagnostic Medical Imaging	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals	3
BIO 155 Human Anatomy & Physiology	5

RAD CORE REQUIREMENTS — (48 credits; 2.0 required for each course)

RAD 120 Radiographic Orientation	2
----------------------------------	---

RAD 121 Radiographic Positioning I	4
RAD 125 Radiographic Positioning II	4
RAD 126 Clinical Practicum I	3
RAD 162 Clinical Practicum II	3
RAD 210 Clinical Practicum III	5
RAD 214 Clinical Practicum IV	5
RAD 219 Clinical Practicum V	5
RAD 160 Fundamentals of Radiologic Science	4
RAD 161 Radiographic Exposure	4
RAD 213 Radiobiology	2
RAD 212 Special Radiographic Studies	4
RAD 218 Radiographic Pathology	3

MULTI-SKILLED CERTIFICATION ELECTIVES**(Not Required for the Degree)**

MOA 211 Medical Assistant Techniques II	4
NUR 121 Pharmacology	3
LPN 132 Medications	3

SUGGESTED COURSE SEQUENCE**Prerequisite Semesters:****Winter:**

BIO 155, HOC 130, DMS 100, MOA 110

First Year**Spring:**

RAD 120, RAD 121, MOA 211 (Multiskilled Cert. Curriculum - optional)

Fall:

RAD 125, RAD 126, ENG 131, MTH 131

Winter:

RAD 160, RAD 161, RAD 162, HPF course

Second Year**Spring:**

RAD 210, LPN 132 (Multiskilled Cert. Curriculum - optional), ITE 101

Fall:

RAD 214, RAD 213, RAD 212, Humanities course

Winter:

RAD 219; RAD 218; PSY 140

TRANSFER PROGRAMS

MEDICAL LABORATORY TECHNOLOGY

Medical Laboratory Technicians search for clues about the presence, extent, and causes of disease. They use their knowledge of how diseases affect test results to provide an accurate and complete picture of a patient's condition. MLTs analyze blood and body fluids for a wide variety of chemical changes, using the latest biomedical instruments. They culture and identify bacteria that cause disease and examine blood to detect anemias, leukemias, and infections, ensuring that donor blood is safe for transfusion.

Kellogg Community College and JCC jointly offer an Associate of Applied Science degree program in Medical Laboratory Technology. This program allows students to take the specified general education courses identified in this agreement at JCC and complete their program by taking the occupational specific courses at Kellogg Community College. These courses may be taken concurrently provided students are formally admitted to the program at Kellogg Community College and all prerequisite course requirements are adhered to. Consult an academic advisor for more information.

Bachelor of Applied Science in **Allied Health Option** with Siena Heights University offers a unique bachelor of applied science in allied health degree program for JCC students with training and/or experience in diagnostic medical sonography, emergency medical services, medical assistant, nursing and related fields. This career-oriented degree for graduates of JCC's two-year programs is structured on an inverted major concept. All the courses needed to earn a bachelor's degree are available on JCC's main campus through the Siena Heights University degree completion center.

JCC/U OF M BACHELOR OF SCIENCE IN NURSING PROGRAM

A Bachelor of Science in Nursing (BSN) degree prepares students for a critically important, well-paid and secure career. It also allows broader advancement opportunities since some positions are open only to nurses with a minimum of a bachelor's degree. Careers may include advancement to positions in management or clinical education. The JCC/U of M Bachelor of Science in Nursing program allows students to enroll and complete the first segment of a baccalaureate nursing program at JCC and complete the remaining five terms at the University of Michigan. Students must meet the admissions requirements to JCC and the U of M School of Nursing, which requires a 3.0 cumulative GPA in all prior college experience. The program is competitive with a limited number of spaces available annually. For more information contact: Office of Nursing Admissions at (517) 796-8424 or Student Development at (517) 796-8402.

DENTAL HYGIENE

Dental hygienists work under the direction or supervision of a licensed dentist, and must be licensed by the state in which they practice. Clinical responsibilities of the dental hygienist in Michigan include oral examination; scaling and polishing teeth; exposing, processing, mounting and interpreting x-rays; taking impressions and preparing diagnostic models; and other activities related to the oral health of the patient.

JCC offers only prerequisite and general education courses that can be transferred to a dental hygiene program. Five colleges/universities offer a dental hygienist program. Some offer an associate degree and others a bachelor's degree. Consult an academic advisor for more information on transfer options available.

MEDICAL SCIENCES (Pre-medicine, Pre-dental, Pre-pharmacy)

The medical sciences major is designed for pre-professional students who are interested in graduate training in human medicine. Students have a variety of areas of specialization within the field of medicine available to them at the post-graduate level. They may pursue medical, osteopathic, or dental school, graduate level pharmacy programs and physician's assistant or pathology assistant programs.

SAMPLE CURRICULUM FOR MEDICAL SCIENCES

First Year, Fall Semester

BIO 131, CEM 141, , MTH 140 or MTH 151, ENG 131

First Year, Winter Semester

BIO 152, CEM 142, ENG 132, PSY 140

First Year, Spring Semester

PSY 252, MACRAO Humanities course

Second Year, Fall Semester

BIO 151, CEM 241, PHY 231, PHL 231

Second Year, Winter Semester

CEM 242, PHY 232, ECN 231, MACRAO Humanities course

PHYSICAL THERAPY

Physical therapists provide clients, infants through elderly adults, with services at the preventive, acute and rehabilitative stages directed toward achieving increased functional independence and decreased functional impairment. Physical therapists interact and practice in collaboration with a variety of health professionals.

SAMPLE CURRICULUM FOR PHYSICAL THERAPY

First Year, Fall Semester*

ENG 131, MTH 140, SOC 231, CEM 141*

First Year, Winter Semester

ENG 132, BIO 131, PHL 231, PSY 140, CEM 142

Second Year, Fall Semester

PSY 251, PHY 231, CEM 241, MACRAO Humanities course

Second Year, Winter Semester

BIO 152, CEM 242, PHY 232, PSY 252, MACRAO Humanities courses

**Some programs require the chemistry sequence CEM 141, 142, 241, 242*

PRE-VETERINARY

Veterinarians play a major role in the health care of pets, livestock, and zoo, sporting, and laboratory animals. Veterinarians also use their skills to protect humans against diseases carried by animals, and conduct clinical research on human and animal health problems.

SAMPLE CURRICULUM FOR PRE-VETERINARY**First Year, Fall Semester**

BIO 131, CEM 141, MTH 140 or MTH 151, ENG 131

First Year, Winter Semester

BIO 152, CEM 142, ENG 132, HIS 231 or 232, PSY 140 or SOC 231

Second Year, Fall Semester

CEM 241, PHY 231, ECN 231, MACRAO Humanities course

Second Year, Winter Semester

CEM 242, PHY 232, MACRAO Social Science courses

HUMAN SERVICES CAREER PATHWAY

This career pathway includes careers related to economic, political and social systems including education, government, law and law enforcement, early childhood development and education, civil service, education, leisure and recreation, military, religion, personal services and social services. These may include law and legal studies, law enforcement, public administration and child and family services.

DEGREES/CERTIFICATES

- Early Childhood Development & Education
- Corrections
- Law Enforcement

TRANSFER PROGRAMS IN HUMAN SERVICES PATHWAY

The first two years of college education usually consist of general education courses, introductory courses in a major and/or program of study, and selected electives. Refer to pages 38-39 for additional information on transfer and MACRAO. Academic advisors assist in planning transfer programs, and provide transfer guide sheets indicating courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included.

- Criminal Justice/Corrections or Law Enforcement to Siena Heights University
- Psychology
- Social Work
- Pre-Law
- Education

EARLY CHILDHOOD DEVELOPMENT AND EDUCATION — ASSOCIATE IN APPLIED SCIENCE

Early Childhood professionals nurture and teach young children - birth through age 8 - in child care centers, nursery schools, preschools, public schools, and family child care homes. Many Early Childhood professionals perform a combination of basic care and teaching duties. They facilitate activities that stimulate children's physical, emotional, intellectual and social growth. They help children explore their interests, develop their talents and independence, build self-esteem and learn how to behave with others. In addition to attending to children's educational needs, they help keep children healthy by serving nutritious meals and snacks, and teaching good eating habits and personal hygiene. They see to it that children have proper rest periods. They spot children who may not feel well or show signs of emotional or developmental problems and discuss these matters with their supervisor, service team and the child's parents.

Early Childhood settings include private homes, schools, religious institutions, workplaces where employers provide care for employees' children, or private buildings. Individuals who provide care in their own homes are generally called family child care providers. Preschool teachers and child-care workers held about 1.9 million jobs in 2001, serving over 13 million children. Many worked part time. About 4 out of 10 preschool teachers and child-care workers are self-employed, most of whom are family daycare providers. Children in the care of paraprofessionals, kindergarten, 1st and 2nd grade teachers benefit from their specialized training in the Early Childhood field as well.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum GPA:	2.0 ECE 144, ECE 140, ECE 142 (see Child Development Associate (CDA) requirements)
Minimum JCC credits:	12

GENERAL EDUCATION REQUIREMENTS — (18 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS — (3 credits)

MTH 110 Prealgebra	3
• or higher level math course	

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
CEM 121 Chemistry of Life	4
CEM 131 General Chemistry	4
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (4 credits)

PSY 140 Introduction to Psychology	4
--	---

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story and Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Lit 19th Century	3
ENG 256 American Lit 20th Century	3
ENG 257 World Literature	3
HUM 131 Cultural Connections	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
PHL 231 Introduction to Philosophy	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 277 Stress Management	2
HPF 278 Stress Management for Parents	2

EARLY CHILDHOOD DEVELOPMENT & EDUCATION

CORE REQUIREMENTS — (33 credits)

ECE 144 Early Childhood Education*	3
ECE 140 Early Childhood Guidance*	3
ECE 142 Professionalism in Childhood Development*	3
ECE 130 Emergent Literacy	3
ECE 131 Working with Infants/Toddlers	3
ECE 132 Working with Exceptional Children	3
ECE 133 Program Management	3
ECE 150 Directed Teaching I	2
ECE 151 Directed Teaching II	2
ECE 152 Directed Teaching III	2
ITE 101 Information Technology Education	3
PSY 245 Infancy Childhood	3

**Students with a current CDA will be given 9 credits toward the degree and not be required to take these courses. To verify the CDA Credential take the original or a copy of the credential to the Degree Audit Coordinator, Student Development.*

ELECTIVES — (Additional courses so that total degree equals 60 credits).

These additional courses exclude continuing education courses (prefixes CED, CEO, CFO, CSS) or classes offered through JCC's workforce training programs (prefixes JTI, PDI).

We recommend that you choose your electives based upon your career goals or future plans (i.e., Teacher, Assistant, Paraprofessional, Home Provider, Program Director, Health Care, Helping Families, Author/Editor, Sales Representative/ Consumer Advocate, Public Policy.) Courses used to meet General Education Requirements cannot be used to meet elective hours as well. The program coordinator or an advisor can help with recommendations on which courses may be most beneficial for you.

ACC 211 General Accounting	4
ACC 231 Principles of Accounting I	4
ART 131 Art Education	3
BUS 101 Marketing	3
BUS 131 Introduction to Business	3
BUS 132 Advertising, Promotion and Public Relations	3
BUS 155 Human Relations	3
BUS 233 Sales	3
BUS 235 Principles of Retailing	3
BUS 239 Project Management	3
EDU 121 Exploring Teaching	3
EMS or HOC 110 CPR & First Aid	2
ENG 132 Writing Experience	3
ENG 254 Children's Literature	3
ENG 261 and/or 262 Creative Writing	3
HOC 130 Introduction to Health Occupations	3
LPN 132 Medications	3

MOA 110 Medical Terminology	2
MOA 141 Body Structure and Function	4
MOA 145 Normal/Therapeutic Nutrition	3
MTH 112 Business Math	3
MUS 131 Understanding Music	3
MUS 133 Music Education	3
NSC 131 Contemporary Science	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
PLS 141 American National Government	3
PSY 143 Introduction to Probability & Statistics	3
PSY 251 Abnormal Psychology	3
PSY 252 Developmental Psychology	3
SOC 152 Social Psychology	3
SOC 231 Principles of Sociology	3
SOC 235 Minority Groups in America	3
SOC 243 Family Relationships	3
SOC 251 Modern Social Problems	3
SPH 231 Communication Fundamentals	3
SPH 233 Argumentation and Debate	3
SPH 234 Public Address	3
SPH 240 Interpersonal Communication	3

SAMPLE CURRICULUM

First Year, Fall Semester

ECE 140, ECE 144, ENG 131, 1-2 elective choices

First Year, Winter Semester

ECE 130, ECE 142, ITE 101, PSY 140

First Year, Spring/Summer Semester

ECE 131, ECE 150, Humanities choice, 1-2 elective choices

Second Year, Fall Semester

ECE 132, ECE 151, MTH 110, HPF choice, 1-2 elective choices

Second Year, Winter Semester

ECE 133, ECE 152, PSY 245, SCIENCE choice

All Early Childhood Development and Education students who take ECE 150, 151 AND 152 must comply with the Michigan Department of Consumer and Industry's Child Day Care Licensing regulations. You can find the complete set of rules and regulations at: <http://www.state.mi.us/orr/emi/admincode.asp>.

EARLY CHILDHOOD DEVELOPMENT AND EDUCATION SKILL SET CREDENTIALS

The following Skills Set Credentials are available through Jackson Community College's Early Childhood Development and Education Program. These credentials can be earned:

- as you work towards an Associate Degree in Applied Science - Early Childhood Development and Education
- in addition to your current degree(s)
- to document your professional development in the early childhood field

EARLY CHILDHOOD OPERATIONS — (18 credits)

ECE 133 Program Management	3
SPH 240 Interpersonal Communication	3
• or SPH 231 Communication Fundamentals	3
ITE 101 Informational Technology Education	3
MTH 110 Basic Math	3
• or MTH 112 Business Math	3
• or higher mathematics course	3
ENG 131 Writing Experience	3
BUS 101 Marketing	3

ADDITIONAL REQUIREMENT

EMS 110 First Aid/CPR	2
• or evidence of current Adult and Child CPR and First Aid Certification	

EARLY CHILDHOOD DISTINCTIVE POPULATIONS— (15 credits)

ECE 131 Working with Infants and Toddlers	3
ECE 132 Working with Exceptional Children	3
SOC 235 Minority Groups in America	3
PSY 245 Infancy Childhood	3
MOA 145 Normal/Therapeutic Nutrition	3

ADDITIONAL REQUIREMENT

EMS 110 First Aid/CPR	2
• or evidence of current Adult and Child CPR and First Aid Certification	

EARLY CHILDHOOD ADVOCATE — (18 credits)

ECE 142 Professionalism in Child Development	3
ITE 101 Information Technology Education	3
PHL 231 Introduction to Philosophy	3
SPH 234 Public Address	3
SPH 231 Communication Fundamentals	3
SPH 240 Interpersonal Communication	3

ADDITIONAL REQUIREMENT

EMS 110 First Aid/CPR	2
• or evidence of current Adult and Child CPR and First Aid Certification	

EARLY CHILDHOOD INSTRUCTIONAL METHODOLOGY — (15 credits)

ECE 144 Early Childhood Education	3
ECE 140 Early Childhood Guidance	3
ECE 142 Professionalism in Child Development	3
ECE 150 Directed Teaching I	2
ECE 151 Directed Teaching II	2
ECE 152 Directed Teaching III	2

ADDITIONAL REQUIREMENT

EMS 110 First Aid/CPR	2
• or evidence of current Adult and Child CPR and First Aid Certification	

EARLY CHILDHOOD CURRICULUM - LITERACY & THE ARTS — (13 credits)

ECE 130 Emergent Literacy	3
ENG 254 Children's Literature	3
MUS 131 Understanding Music	3
ART 131 Art Education	3
• or DAN 131 Dance Education	3
ECE 127** Performing Arts and Young Children	1

ADDITIONAL REQUIREMENT

EMS 110 First Aid/CPR	2
• or evidence of current Adult and Child CPR and First Aid Certification	

EARLY CHILDHOOD CURRICULUM - MATHEMATICS & SCIENCE — (19 credits)

MTH 110 Basic Math	3
• or higher mathematics course	3
ITE 101 Information Technology Education	3
NSC 131 Contemporary Science	4
ECE 128** Exploring Nature with Young Children	1
ECE 129** Emergent Math	1

One additional Science and Mathematics totaling 7 credits

ADDITIONAL REQUIREMENT

EMS 110 First Aid/CPR	2
• or evidence of current Adult and Child CPR and First Aid Certification	

All other courses meet elective course requirements for an Associate degree. Substitutions may be considered with prior approval.

Completion of all credentials will meet all General Education and Early Childhood Development and Education requirements, as well as surpass elective requirements for an Associate Degree in Applied Science - Early Childhood Development and Education.

***For more information and course descriptions on Skill Set Credentials, please contact Lori Gardner, Adjunct Professor/Coordinator - Early Childhood Development and Education Program at 517-787-0800, ext 8275 or lori_a_gardner@jccmi.edu*

CDA - CHILD DEVELOPMENT ASSOCIATE CREDENTIAL PREPARATION

(THIS IS NOT A JCC DEGREE) — (10 CREDITS)

Minimum 2.0 GPA in all courses.

The Child Development Associate (CDA) National Credentialing Program is a major national effort initiated in 1971. The purpose of the program is to enhance the quality of child care by defining, evaluating, and recognizing the competence of child care providers and home visitors.

The CDA Credential is awarded by the Council for Professional Recognition (the Council). The applicant must meet the following eligibility requirements and submit records as instructed on the Direct Assessment Application Form. (The Form is included as part of the materials required for the courses. The fee for the CDA Credential, payable to the Council – NOT JCC – is about \$325.)

Fee assistance is available through Michigan 4C and T.E.A.C.H. Early Childhood@Michigan.

CANDIDATE ELIGIBILITY REQUIREMENTS

1. Personal

- Be 18 years of age or older.
- Hold a High School diploma or equivalent.
- Be able to speak, read, and write well enough to fulfill the responsibilities of a CDA Candidate.
- Sign a statement of ethical conduct.

2. Setting*

- **For a Center-base Preschool CDA:** Identify a state-approved child development center where the candidate can be observed working as a lead caregiver with a group of at least eight children, who are ages 3-5 years.
- **For a Center-base Infant/Toddler CDA:** Identify a state-approved child development center where the candidate can be observed working as a lead caregiver with a group of at least three children, all of whom are under age 3.
- **For a Family Child Care CDA:** Identify a state-approved family child care home where the candidate can be observed working with at least two children who are not related to the candidate by blood or marriage.
- **For a Bilingual CDA:** Identify a state-approved program that has specific goals for achieving bilingual development in children, using language consistently in daily activities and helping parents understand the goals and to support children's bilingual development.

**Students not currently employed in a child care setting will need to spend time in such an environment.*

3. Experience

- **For an initial CDA:** Candidate must have had, within the past five years, at least 480 hours of experience working/volunteering with children in settings as described above, for the certificate being applied for.
- **For a Second-Setting CDA:** After receiving their initial CDA, a Candidate must have at least 60 hours of experience working/volunteering with children in settings as described above, for the second certificate being applied for.

4. Education: Complete the following coursework and be certified for CPR & First Aid

- **For a Center-base Preschool or Family Child Care CDA:**
ECE 140 Early Childhood Guidance
ECE 142 Professionalism in Child Development
ECE 143 CDA Preparation*
ECE 144 Early Childhood Education
- **For a Center-base Infant/Toddler CDA:**
Complete the coursework listed above and,
ECE 131 Working with Infants and Toddlers
- **For a Bilingual CDA:**
Ask about our bilingual course availability
- **For a Second-Setting CDA:** Courses depend upon the certification being applied for. Please talk with us to help in making the most appropriate decision for you.

**Optional course designed to assist in CDA application preparation.*

Students planning to enter the CDA credential program must complete the course placement assessment given at JCC. Students with an ACT composite of 18 and mathematics score of 18 meet the competencies and are exempt from course placement assessment. Students who complete course placement and who do not receive a minimum of 41 in reading and 1 or 2 in writing on the course placement assessment are not eligible to enroll in more than two CDA required courses in one semester. *Students not currently employed in a child care setting will need to spend time in such an environment.

CORRECTIONS — ASSOCIATE IN APPLIED SCIENCE

Corrections officers are charged with safekeeping persons who have been arrested, are awaiting trial or are in a correctional institution. Officers maintain order within the institution, enforce rules and regulations and often supplement counseling that inmates received from mental health professionals. In addition to being prison/jail guards, corrections officers can work in other related positions, such as juvenile facilities.

Minimum credits:	63
Minimum cumulative GPA:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------------	---

MATHEMATICS — (3 credits)

Choose one of the following:

MTH 110 Pre-Algebra	3
MTH 112 Business Math	3
MTH 120 Beginning Algebra	4
MTH 131 Intermediate Algebra	4

MTH 133 Introduction to Probability & Statistics	3
• or higher mathematics course	

SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
CEM 131 General Chemistry	4
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

PLS 141 American National Government	3
--	---

HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)**Choose one of the following:**

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2

RELATED REQUIREMENTS — (16 credits)

ENG 132 Writing Experience	3
PSY 140 Introduction to Psychology	4
PSY 251 Abnormal Psychology	3
SOC 231 Principles of Sociology	4
SPH 231 Communication Fundamentals	3

CORRECTIONS CORE REQUIREMENTS — (21 credits)

ITE 101 Information Technology Education	3
CRJ 119* Client Growth and Development	3
CRJ 120* Human Relations for Corrections	3
CRJ 121* Introduction to Corrections	3
CRJ 124* Institution Populations	3
CRJ 127* Corrections Law	3
ENG 232 Technical & Business Writing	3

CORRECTIONS ELECTIVES — (9 credits)**Choose from the following:**

CRJ 101 Criminal Law	3
CRJ 104 Criminal Justice Psychology	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 112 Crime and Delinquency	3
CRJ 117 Criminology	3
• or SOC 117 Criminology	3
CRJ 122 Corrections Administration & Operations	3
CRJ 125 Parole & Probation	3
CRJ 173 Reflective Learning	6
CRJ 247 Work Experience	3

** Recommended for prospective State of Michigan correctional officers. Each corrections course must be completed with a 2.0 to meet the requirement of the Michigan Correctional Officers Training Council.*

SUGGESTED COURSE SEQUENCE**Fall Semester, First Year**

ENG 131, MTH 110, CRJ 121

Winter Semester, First Year

ENG 132, BIO 131 or NSC 231

Spring Semester, First Year

Humanities Requirements, SPH 231

Fall Semester, Second Year

PSY 140, ITE 101

Winter Semester, Second Year

PSY 251, CRJ 120, HPF 160

Spring Semester, Second Year

SOC 231, CRJ Elective

Fall Semester, Third Year

ENG 232, PLS 141, CRJ 119

Winter Semester, Third Year

CRJ 124, CRJ 127

Spring Semester, Third Year

CRJ Elective, CRJ Elective

***Courses with prerequisites:**

PSY 251 prerequisite is PSY 140

ENG 132 prerequisite is ENG 131

"Desired" background for student to be successful in particular courses (this is for courses that do not have specific prerequisites, but desired experience or knowledge) Persons willing to help others. Good interpersonal communication and critical thinking skills.

Students cannot start the program during winter semester and still complete in 9 semesters due to prerequisites.

CORRECTIONS — CERTIFICATE

Offers an opportunity to pursue initial study in the student's area of interest. Credits earned may apply toward an associate degree.

Minimum credits:	31
Minimum JCC credits:	12
Minimum cumulative GPA:	2.0
MACRAO agreement:	No

CORRECTIONS CORE REQUIREMENTS — (31 credits)

CRJ 119* Client Growth and Development	3
CRJ 120* Human Relations for Corrections	3
CRJ 121* Introduction to Corrections	3
CRJ 124* Institution Populations	3
CRJ 127* Corrections Law	3
ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4
SPH 231 Communication Fundamentals	3

** Recommended for prospective State of Michigan correctional officers. Each corrections course must be completed with a 2.0 to meet the requirement of the Michigan Correctional Officers Training Council.*

CORRECTIONS OFFICER — (STATE OF MICHIGAN)

The information set forth summarizes the requirements of the Michigan Department of Corrections for prospective Corrections Officers. These requirements, effective October 2000, are for informational purposes only and are subject to change by the Michigan Department of Corrections. Students should contact the Michigan Department of Corrections or the Michigan Department of Civil Service for information regarding its current requirements for correctional officers (517) 334-7569 or 1-888-820-7129.

QUALIFICATIONS FOR CORRECTIONAL OFFICERS

- Minimum Requirements: Possession of a high school diploma or GED and a minimum 18 years of age.
- To be eligible for consideration as a Corrections Officer, certain education and exam requirements must be satisfied. Most applicants must pass a written Civil Service exam and have an educational background that includes at least 15 semester (or 23 term) college credit hours in Corrections, Criminal Justice, Psychology, Sociology, Family Relations, Guidance and Counseling, Pastoral Counseling, Social Work or Law Enforcement. **These credits must be earned before employment or within 18 months following the date of hire.**
- Possession of 30 semester (or 45 term) college credit hours in any academic or degree prerequisite area meets the educational requirements, however passing the Civil Service exam is also required.
- Exam will be waived if you have an honorable discharge from active duty or National Guard duty or are currently a member of good standing in the National Guard.
- Any bachelor's degree or two years of satisfactory Corrections Officer employment at the state or federal prison level fulfills the education requirements and the exam is waived.

Before being hired, an applicant must pass a physical fitness test given by the Michigan Department of Corrections which consists of:

- completing 13 sit-ups in 30 seconds
- 17 push-ups in 60 seconds, and
- continuously walking up and down steps, ranging up to 11 3/4, for 6 minutes.

In addition, an applicant must have acceptable vision, hearing, and general good physical health, and pass a drug screen*.

An individual who has been convicted of a felony or domestic violence cannot be hired. Consideration cannot be given to an applicant who is on misdemeanor probation, has outstanding warrants, or has a controlled substance (drug) related conviction in any jurisdiction, including drug-related

military discharges. In addition, an applicant who has been convicted of any other misdemeanor shall not be eligible for employment until one year after satisfactory completion of any sentence imposed, including probation.

Where to apply: Michigan Department of Civil Service, 400 South Pine, Lansing, MI 48909 or www.michigan.gov/mdcs.

Please note: Make sure you return the Civil Service application with the appropriate documentation. Example: transcripts, DD-214 (military), and/or employment history if you have Corrections Officer experience.

For further information, please call (517) 334-7569 or 1-888-820-7129.

**Failure to pass the drug screen will result in permanent elimination from consideration for employment, even if the failure is due to taking someone else's valid prescription.*

CORRECTIONS OFFICER — SKILL SET CREDENTIAL

Minimum credits:	15
Minimum GPA:	2.0 or better for each course
Minimum JCC credits	12

CRJ 119 Client Growth and Development	3
CRJ 120 Human Relations for Corrections	3
CRJ 121 Introduction to Corrections	3
CRJ 124 Institution	3
CRJ 127 Corrections Law	3

ADDITIONAL CURRICULUM RECOMMENDED:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2

Students with an ACT composite of 18 and mathematics score of 18 meet the competencies and are exempt from course placement assessment. Students who complete course placement and who do not receive a minimum of 41 in reading and 1 or 2 in writing on the course placement assessment are not eligible to enroll in more than three CRJ courses in one semester. Students who successfully pass the Civil Service Exam may waive course placement assessment and complete required coursework for correction officers.

LAW ENFORCEMENT — ASSOCIATE IN APPLIED SCIENCE

Careers in law enforcement, including police officers and deputy sheriffs, are ever changing. Police officers, help prevent crimes, investigate crimes and control traffic. Detectives and special agents gather facts and evidence for criminal cases. In Michigan, students must complete the Police Academy training

to be eligible for employment as a police officer. In many cases, police agencies require a minimum of an associate degree for new employees.

Minimum credits:	60
Minimum JCC credits:	12
Minimum cumulative GPA:	2.0
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
----------------------------	---

MATHEMATICS — (3 credits)

Choose one of the following:

MTH 110 Pre-Algebra	3
MTH 112 Business Math	3
MTH 120 Beginning Algebra	4
MTH 131 Intermediate Algebra	4
MTH 133 Introduction to Probability & Statistics	3
• or higher mathematics course	

SCIENCE (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
CEM 131 General Chemistry	4
GEL 160 Introduction to Geology	4
NSC 131 Contemporary Science	4
PHY 131 Conceptual Physics	4
PHY 151 Astronomy	4

SOCIAL SCIENCE — (3 credits)

PLS 141 American National Government	3
--------------------------------------	---

HUMANITIES (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric - 1400	3
ART 112 Art History: Renaissance - Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
PHL 231 Introduction to Philosophy	3

PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2

RELATED REQUIREMENTS (16 credits)

ENG 132 Writing Experience	3
PSY 140 Introduction to Psychology	4
PSY 251 Abnormal Psychology	3
SOC 231 Principles of Sociology	3
SPH 231 Communication Fundamentals	3

LAW ENFORCEMENT CORE REQUIREMENTS — (18 credits)

ITE 101 Information Technology Education	3
CRJ 101 Criminal Law	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 114 Police Administration & Operations	3
CRJ 117 Criminology	3
• or SOC 117 Criminology	3
ENG 232 Technical & Business Writing	3

LAW ENFORCEMENT ELECTIVES — (9 credits)

CRJ 102 Criminal Investigation	3
CRJ 104 Criminal Justice Psychology	3
CRJ 112 Crime and Delinquency	3
CRJ 113 Introduction to Criminalistics	3
CRJ 116 Fire/Arson Investigation I	3
CRJ 118 Criminal Evidence	3
CRJ 121 Introduction to Corrections	3
CRJ 247 Work Experience	3

SUGGESTED COURSE SEQUENCE

Fall Semester, First Year

ENG 131, MTH 110, SPH 231, CRJ 117, CRJ 111

Winter Semester, First Year

ENG 132, ITE 101, PLS 141, CRJ 101, CRJ Elective

Fall Semester, Second Year

Humanities Requirement; PSY 140, Science Requirement, CRJ Elective, HPF

Winter Semester, Second Year

*PSY 251, SOC 231, CRJ 114, ENG 232, CRJ Elective

*Courses with prerequisites

PSY 251 prerequisite is PSY 140

ENG 132 prerequisite is ENG 131

"Desired" background for student to be successful in particular courses (this is for courses that do not have specific prerequisites, but desired experience or knowledge). Persons willing to help others. Good interpersonal communication and critical thinking skills.

Students cannot start the program during the winter semester and still complete in 4 semesters due to prerequisites.

LAW ENFORCEMENT — CERTIFICATE

A certificate in law enforcement offers individuals an opportunity to pursue initial study in their areas of interest. Credits earned may be applied toward an associate degree.

Minimum credits:	31
Minimum JCC credits:	12
Minimum cumulative GPA:	2.0
MACRAO agreement:	No

LAW ENFORCEMENT CORE REQUIREMENTS — (31 credits)

CRJ 101 Criminal Law	3
CRJ 102 Criminal Investigation	3
CRJ 111 Introduction to Criminal Justice	3
CRJ 112 Crime and Delinquency	3
CRJ 114 Police Administration & Operations	3
CRJ 117 Criminology	3
• or SOC 117 Criminology	3
ENG 131 Writing Experience	3
ENG 232 Technical & Business Writing	3
PLS 141 American National Government	3
PSY 140 Introduction to Psychology	4

TRANSFER PROGRAMS

CRIMINAL JUSTICE/CORRECTIONS OR LAW ENFORCEMENT

Students may choose to begin their coursework at JCC and then transfer to earn a bachelor's degree in criminal justice. These students may manage prison systems, serve in law enforcement departments at the state and federal level or become parole and probation officers.

SAMPLE CURRICULUM FOR CRIMINAL JUSTICE

First Year, Fall Semester

ENG 131, MTH 131 or MTH 140*, BIO 131, CRJ 111

First Year, Winter Semester

ENG 132, CEM 131, PSY 140, CRJ 112

Second Year, Fall Semester

MTH 133**, PSY 251, PLS 141, CRJ 101 or 114, PHL 231

Second Year, Winter Semester

CRJ 117 or SOC 117, SOC 235, MACRAO Humanities courses

**Check mathematics requirements of transfer institution.*

***MSU transfer students register for PSY 143*

CRIMINAL JUSTICE - BACHELOR'S DEGREE OPTION WITH SIENA HEIGHTS UNIVERSITY

Students can work with staff from JCC and Siena Heights University to earn a bachelor of arts degree in criminal justice. Tailored to build on JCC's associate degrees in law enforcement and corrections, students can transfer up to 90 credits from JCC and complete at least 30 hours credit from Siena with a minimum of 18 hours of criminal justice classes. All the courses for the bachelor's degree in criminal justice are available at JCC's main campus through the Siena Heights University degree completion center.

PSYCHOLOGY

Psychology covers a broad range of topics. Psychologists specialize in such areas as clinical psychology, counseling psychology, developmental psychology, physiological psychology, neuropsychology, educational psychology, experimental psychology, cognitive psychology, social psychology and cross- cultural psychology. Specialization begins after transferring and continues through graduate work. The first two years of coursework are similar regardless of the specialization.

SAMPLE CURRICULUM FOR PSYCHOLOGY

First Year, Fall Semester

ENG 131, MTH 140, BIO 131, PSY 140

First Year, Winter Semester

ENG 132, PSY 143, PSY 152, CEM 131, SOC 231

First Year, Spring Semester

HIS 232, SPH 231

Second Year, Fall Semester

PLS 141, PSY 252, ITE 101, SOC 235, MACRAO Humanities course

Second Year, Winter Semester

ANT 131, ECN 231, PSY 251, PHL 231, PSY Elective

SOCIAL WORK

Students planning a career in social work will learn to identify problems affecting individuals and their environment, become more aware and sensitive to issues of race, ethnicity, religion and gender and use their knowledge, skills and values to enhance the quality and delivery of services in the community.

To prepare to become a social worker students obtain either a bachelor's or master's degree. Students need to investigate the programs at their intended transfer institution to be sure they offer the desired program. All social work programs are competitive.

SAMPLE CURRICULUM FOR SOCIAL WORK

First Year, Fall Semester

ENG 131, NSC 131, MTH 131 or MTH 140,* ITE 101

First Year, Winter Semester

ENG 132, BIO 131, PSY 140, MTH 133

First Year, Spring Semester

SOC 231, HIS 232

Second Year, Fall Semester

PSY 251, PLS 141, HUM 131, ECN 231, SOC 235

Second Year, Winter Semester

SPH 231, PHL 231, PSY Elective, SOC Elective

**Check mathematics requirements at transfer institution.*

PRE-LAW

Pre-law is a major often selected by students interested in pursuing careers in government or law. For many students, a bachelor's degree in political science is the first step toward their ultimate goal of an advanced degree in programs such as public administration, law, or urban planning, to name a few.

SAMPLE CURRICULUM FOR PRE-LAW

First Year, Fall Semester

ENG 131, MTH 140, PLS 141, MACRAO Science course

First Year, Winter Semester

ENG 132, MTH 133, PHL 231, HIS 231, MACRAO Science course

Second Year, Fall Semester

HIS 232, PSY 140, ECN 231, SPH 231, Elective

Second Year, Winter Semester

ECN 232, PHL 232, SOC 231, Electives

TEACHER EDUCATION

The field of education is rapidly changing, and aspiring teachers must be highly motivated, dedicated to academic excellence and willing to face the challenges presented in the real world of students, teachers, classrooms and schools. Students pursuing either an elementary, special education or secondary teaching certificate need to major and/or minor in subject disciplines they plan to teach. All students pursuing teacher certification should plan to take the Michigan Test for Teacher Certification: Basic Skills (reading, writing and

mathematics) during the second semester of their freshman year. All colleges require successful completion of this test before acceptance into their college/university of education. For information on test dates, registration and cost, contact Student Development, the Education Coordinator or the main offices at the Centers.

JCC and Spring Arbor University have developed a formal articulation agreement and partnership in Teacher Education. This partnership is designed to facilitate the education mobility and transfer of students from JCC to Spring Arbor University.

Each four-year institution has requirements for entrance into their "College/University of Education" and majors/minors. Students should contact the four-year degree-granting institution early in the second semester of the freshman year for their education school requirements. A student must first be admitted to the four-year institution and second follow the admittance procedure to then be admitted into its school of education. Acceptance into a four-year college is not an automatic acceptance into its school of education.

ELEMENTARY EDUCATION

The curriculum for students planning to become elementary teachers varies considerably depending on teaching major and/or minors and intended transfer institutions. Please see an advisor for additional information for the full time elementary education student program at JCC. A sample program is suggested below. JCC's Program for elementary education majors benefits the student by:

- Focusing on education issues and perspectives: a) In the 1st and 2nd year general education curriculum (ex. English 131 section with education perspective) and b) Student forums, events and organizations where subject matter relative to education and the teaching profession is presented, discussed and clarified
- Providing connections for education students to share concerns and issues
- Helping to facilitate transfer to 4-year colleges/universities of education

JCC recommends by the end of the freshman year each student:

- Investigate and decide teachable major/minor
- Investigate and decide a transfer four-year institution
- Complete application for the Michigan Test for Teacher Certification (MTTC-Basic Skills)

SECONDARY EDUCATION AND SPECIAL EDUCATION

In planning for secondary or special education, students must follow the recommended course of study provided by the transfer institution. Consult the transfer institution of choice for requirements as early as possible for course selection recommendations.

To become a state certified teacher in Michigan, a student must obtain a bachelor's degree, pass the Basic Skills Michigan Test for Teacher Certification and, before receiving their teaching certificate, pass the Michigan Content Test in their major and minor(s).

Students must investigate the teacher education program at their intended transfer institution to be sure they offer the desired major and minor as well as the requirements to obtain teacher certification from the institution of choice. Each 4-year institution offers teacher certification in particular subject areas. All teacher education students are encouraged and welcome to attend the teacher education forums and events and activities at JCC.

Some students may desire to obtain an associate degree from JCC although this is not a requirement for admission into a 4-year program. To graduate with a General Education Associate in Arts degree from JCC, a student must complete the degree requirements. Review the requirements in the catalog for the Associate in Arts degree.

Check your teacher education transfer institution for transferability of all courses.

See respective areas for course descriptions.

NATURAL RESOURCES & AGRISCIENCE CAREER PATHWAY

Careers in this pathway are related to agriculture, the environment and natural resources. These include agricultural sciences, earth sciences, environmental sciences, fisheries, forestry, horticulture and wildlife.

TRANSFER PROGRAMS

The first two years of college education usually consists of general education courses, introductory courses in a major and/or program of study, and selected electives. Refer to pages 38-40 for additional information on transfer and MACRAO. Academic advisors assists in planning a student's transfer program. They can also provide transfer guide sheets indicating courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included.

- Biology
- Mathematics

BIOLOGY

Biology, the study of living organisms, is an exciting, dynamic field that offers the opportunity to study and explore animals, plants and bacteria under a wide range of conditions in the laboratory and outdoors. Biologists work in such widely varying areas as medicine, crop improvement, wildlife management, forensics, toxic waste management, environmental preservation and education.

SAMPLE CURRICULUM FOR BIOLOGY MAJOR

First Year, Fall Semester

BIO 131, CEM 141, MTH 140, ENG 131

First Year, Winter Semester

BIO 152, CEM 142, MTH 151*, ENG 132

First Year, Spring Semester

MACRAO Social Science and Humanities courses

Second Year, Fall Semester

BIO 151, CEM 241, PHY 231, CPS 175*

Second Year, Winter Semester

CEM 242, PHY 232, MACRAO Social Science and Humanities courses

**Not required by all transfer institutions.*

MATHEMATICS

Students interested in the field of mathematics may major in mathematics or statistics. Mathematics majors find careers in applied mathematics and education. Statistics majors work in such areas as computer science, management, and accounting.

SAMPLE CURRICULUM FOR MATHEMATICS

First Year, Fall Semester

ENG 131, MTH 151, CPS 175*, PSY 140

First Year, Winter Semester

ENG 132, MTH 154, MTH 133**, CPS 177, ECN 231

Second Year, Fall Semester

MTH 251, PHY 251, PHL 231, MACRAO Social Science course

Second Year, Winter Semester

MTH 254, PHY 252, MACRAO Humanities courses

**Not required but recommended to prepare for CPS 177*

***MSU students should register for PSY 143*

DESCRIPTION OF COURSES**GUIDE TO ABBREVIATIONS:**

MAIN — Main Campus
 JDC — Robert L. Johnson Downtown Center
 HTC — Hillsdale Technology Center
 ADR — JCC Lenawee Center
 F,W,S — Semesters the course is offered, i.e. Fall, Winter or Spring

Internships, independent study, special topics and work experience are special options offered in each discipline. See their activity descriptions. Students seeking any of these options should meet and discuss the choice with the respective faculty.

ACCOUNTING (ACC)**ACC 115 Payroll Accounting (2 CR)**

Application of payroll accounting rules and procedures for running a business. Employment and tax laws that affect payroll preparation. Skills, procedures, and concepts necessary to figure a company's payroll. Topics: hiring, gross pay, social security, income taxes, employee deductions and benefits, payroll accounting, earnings records, tax deposits, unemployment taxes, recording payroll transactions, form 940EZ, 941, reporting employees earnings and special situations.

ACC 130 Quickbooks Pro (2 CR)

Learn to use the many features of this popular and sophisticated small business computerized accounting system. Topics include customizing the system to your business, invoicing and bill paying, invoicing and statements, general ledger, accounts receivable, accounts payable, checking accounts and credit cards, on-line banking, reports and graphs, payroll, inventory, financial management, contract management, job costing and budgeting, and tax reports.

Prerequisite: ACC 211

ACC 145 Business Tax Accounting (3 CR/F)

This course will introduce the student to the various federal, state and local taxes (excluding income taxes) that a sole proprietorship, partnership or corporation will be required to file and pay with an emphasis on those applicable in the state of Michigan.

ACC 211 General Accounting (4 CR)

Fundamentals designed to give an overall picture and understanding of the field of accounting. An introductory business course for secretarial and other non-business majors.

Prerequisite: MTH 110 or MTH 112

ACC 216 Financial Accounting Concepts (4 CR/F,W)

This course is designed for the non-accounting supervisor/manager who must have an understanding of financial and managerial accounting as it is used in decision making.

ACC 231 Principles of Accounting I (4 CR/F,W,S)

Theory and practice of recording accounting data and preparation of financial statements in accordance with Generally Accepted Accounting Principles (GAAP) utilizing current software. Emphasis is on proprietorships. Introductory course in accounting for business administration and accounting majors.

Prerequisite: MTH 120 and ITE 101

ACC 232 Principles of Accounting II (4 CR/F,W,S)

Students learn the aspects of accounting unique to the corporation followed by an introduction to the managerial decision-making uses of accounting data utilizing current software. Topics studied include stocks, bonds, cash flow, cost accounting, break-even analysis, differential analysis, financial statements and budgeting.

Prerequisite: ACC 231

ACC 234 Managerial Accounting (4 CR)

Accumulation of a data base useful to management in a variety of decision making situations. Emphasizes manufacturing accounting, cost-volume relations, relevant costs, budgeting and standard costs for control, responsibility accounting, job and process cost systems, and quantitative techniques in managerial accounting.

Prerequisite: ACC 232

ACC 240 Intermediate Accounting (4 CR)

Review of accounting theory and processes, nature and content of the balance sheet and income statement, present value tables and their application, and currently applicable Generally Accepted Accounting Principles (GAAP) and recent Financial Accounting Standards Board (FASB) pronouncements.

Prerequisite: ACC 232

AVIATION FLIGHT TECHNOLOGY (AFT)**AFT 055 The Right Seat (0.33 CR)**

Designed for the spouse or friend of the licensed pilot to become familiar with communication, navigation, and basic flight procedures necessary to assist an ill or incapacitated pilot.

AFT 100 Basic Maneuvers (2 CR)

Ground instruction relating to in-flight maneuvering. Explains the theory and proper execution of ground and flight maneuvers required for Primary Flight.

AFT 110 Primary Ground School (3 CR)

Preparation for the FAA Private Pilot written examination by classroom work on federal aviation regulations, air space, meteorology, navigation, communication and aerodynamics.

AFT 115 Primary Flight I (4 CR)

20 hours of flight prepares the student for solo flight with 15 hours of dual instruction and 5 hours of solo flight. Includes preflight, start-up, radio communication, taxi, basic flight maneuvers, takeoffs, landings, etc.

AFT 120 Primary Flight II (4 CR)

30 hours of flight prepares the student for the Private Pilot Certificate with 15 hours of dual and 15 hours of solo flight to include solo cross-country, night and basic instrument training. **Prerequisite:** AFT 115

AFT 125 Commercial Ground School (3 CR)

Prepares the student for the FAA Commercial Pilot written examination. In-depth study of meteorology, Federal Aviation regulations, aircraft systems, airspace, aerodynamics, etc.

AFT 130 Commercial Flight I (4 CR)

Initial flight training leading to the Commercial Pilot Certificate with instrument rating. Advanced flight training includes chandelles, lazy 8s, pylons 8s, along with basic instrument techniques. **Prerequisite:** AFT 120

AFT 135 Instrument Ground School (3 CR)

Prepares the student for the FAA Instrument Pilot written examination through study of federal aviation regulations, A/C systems, meteorology, IFR departure, en route and arrival procedures. **Prerequisite:** AFT 120

AFT 140 Commercial Flight II (4 CR)

Continuation of advanced and instrument flight training including night, basic instrument procedures, navigation, and cross-country flight. Also includes introduction to complex aircraft. **Prerequisite:** AFT 130

AFT 200 Commercial Flight III (4 CR)

Continuation of advanced and instrument flight procedures with emphasis on high-performance maneuvers, solo cross-country and dual instrument en route and approach procedures. **Prerequisite:** AFT 140

AFT 205 Commercial Flight IV (4 CR)

Culmination of the commercial/instrument curriculum with requirements completed for Commercial Pilot Certificate with Instrument Rating in the complex aircraft. **Prerequisite:** AFT 200

AFT 210 Instrument Flight (4 CR)

Designed for the non-commercial pilot, includes all phases of instrument flight including basic instrument, departure, en route and arrival procedures. **Prerequisite:** AFT 135

AFT 215 Flight Instructor Theory (3 CR)

Preparation for completion of the two FAA written examinations for Flight Instructor-Airplane. Covers theory of instruction and analysis of flight maneuvers from the perspective of the instructor. **Prerequisite:** AFT 205

AFT 220 Flight Instructor Flight (3 CR)

Preparation for the Flight Instructor-Airplane Certificate through effective techniques of lesson planning, teaching methods, and analysis of maneuvers. **Prerequisite:** AFT 205

AFT 230 Instrument Flight Instructor Flight (3 CR)

Preparation of materials and teaching methods, analysis of maneuvers and instruction in flight instructor responsibilities. **Prerequisite:** AFT 215

AFT 235 Flight Transition (2 CR)

Provides the licensed pilot with the opportunity to develop the knowledge, experience, and flight skills needed for transition to the complex single-engine aircraft.

AFT 240 Biennial Flight Review Clinic (1 CR)

Provides the flight review necessary for FAA biennial requirements. Includes ground and flight review appropriate to the certificate or rating held by the student.

AFT 245 Simulator Training (1 CR)

Designed for the student in need of self-paced simulator training. Student may choose basic, advanced, or cross-country mode and proceed as needs require.

AFT 250 IFR Recurrency (1 CR)

Designed for the instrument pilot in need of recurrent training. Satisfies FAR Part 61 requirement for recent IFR experience. Student may utilize simulator, aircraft or both.

AFT 260 Multi-Engine Flight (1 CR)

Covers flight techniques and operational procedures of multi-engine airline aircraft. **Prerequisite:** AFT 210

AFT 270 Practical Application (1 CR)

Allows the licensed pilot (private or better) to proceed dual, solo or with passengers, in a directed extension of the learning experience. **Prerequisite:** AFT 120

AFT 275 Maintenance for Pilots (2 CR)

Pilot-owner oriented procedures for legal self-maintenance of aircraft. Considerable hands-on experience detailing preventative maintenance, inspection and repair of aircraft. Contains a review of federal aviation regulations, documents and standard practices pertaining to pilot-owner maintenance.

APPLIED INDUSTRIAL TECHNOLOGY (AIT)**AIT 117 Beginning Sheet Metal (2 CR) (SAME AS AIT 065)**

This class will teach methods and formulas necessary to shop fabricate the most common straight duct and fillings used in the HVAC industry.

AIT 118 Advanced Sheet Metal (2 CR) (SAME AS AIT 065)

This class will teach advanced methods and formulas necessary for transitional and round shop fabrication of duct fittings for the commercial HVAC industry.

AIT 121 Introduction to HVAC (3 CR)

The class will introduce the student to the variety of professions and work opportunities in the HVAC field. Students will also review the tools of the trade, safety practices, a basic introduction to components of heating and air conditioning equipment, heat transfer, psychometrics and air quality.

AIT 123 Application of HVAC Technology (3 CR)

The student will be taught to calculate heat loss and heat gain for residential and small commercial buildings, design duct distribution systems, and choose properly sized heating and air conditioning equipment. **Recommended: Basic knowledge of heating and air conditioning vocabulary.**

AIT 131 Basic HVAC Electrical/Controls (2 CR)

This class will cover the characteristics of basic electrical circuitry and low voltage control wiring, as well as electrical formulas and applications. **Recommended: Basic knowledge of heating and air conditioning vocabulary.**

AIT 135 Refrigeration & Air Conditioning I (3 CR)

This class will cover standard components, operational sequences, troubleshooting and repair of refrigeration and air conditioning equipment. **Recommended: Basic knowledge of heating and air conditioning vocabulary.**

AIT 136 Refrigeration & Air Conditioning II (3 CR)

This class will cover advanced components, operational sequences, troubleshooting and repair of refrigeration and air conditioning equipment. **Prerequisite: AIT 135**

AIT 137 Advanced HVAC Electrical/Controls (2 CR)

This class will cover characteristics of advanced electrical circuitry and low voltage control wiring, as well as electrical formulas and applications. **Prerequisite: AIT 131**

AIT 141 Basic Heating (2 CR)

This class will cover standard components, operational sequences, troubleshooting, and repair of gas and oil heating equipment. **Recommended: Basic knowledge of heating and air conditioning vocabulary.**

AIT 142 Advanced Heating (2 CR)

This class will cover advanced components, operational sequences, troubleshooting and repair of heating equipment. **Prerequisite: AIT 141**

AIT 200 Mechanical Code (2 CR)

This course covers local and national laws governing the installation of HVAC equipment and system components. *Students should take in last semester.*

AIT 201 Refrigeration Certification 1 CR

This class will cover the characteristics of and laws pertaining to the handling, installing and recovering of freons. Successful completion of this course will earn the student the required certification to legally purchase and use freon. **Prerequisite: AIT 135**

ANTHROPOLOGY (ANT)**ANT 131 Cultural Anthropology (3 CR/E/W)**

This introduction to anthropology presents cultures from all continents, highlighting major lifestyles and illustrating human adaptation to environment from the beginnings of the human species to the present. The course focuses on the thesis that every society is based on an integrated culture, which satisfies human needs and facilitates survival.

ART**ART 101 Two-Dimensional Design (3 CR)**

Students will learn the principles and elements of 2-D design, study how to apply them and practice their application.

ART 103 Drawing I: Foundations (3 CR/ E/W)

Introduction to basic design principles and techniques. Contour and tonal drawing are explored using various subjects.

ART 111 Art History: Prehistoric - 1400 (3 CR)

Survey of art history and aesthetics covering art and architecture from prehistoric times to 1400.

ART 112 Art History: Renaissance to Present (3 CR/E,W,S)

Survey of art history and aesthetics covering art from the Renaissance through the twentieth century.

ART 131 Art Education (3 CR/F) (EVEN YEARS)

Students explore theories and philosophies of art education with an emphasis on elementary school children's artistic development and "hands-on" studio art projects.

ART 152 Painting I: Design & Color (3 CR)

The elements and principles of design and color are introduced to create composition. Emphasis is given to techniques using acrylics and/or watercolor.

Prerequisite: ART 103

ART 154 Landscape Painting (2 CR)

Landscape painting directly from nature. Provides students with experience in composition, color, drawing and painting.

ART 155 Watercolor Painting (3 CR)

The elements and principles of using watercolor are introduced to create composition. **Prerequisite:** ART 103

ART 201 Three-Dimensional Design: Shapes & Space (3 CR)

Students learn the principles and elements of 3-D design and study how to apply them. Students will understand and be able to demonstrate the different construction methods.

ART 205 Drawing II: Figure & Composition (3 CR)

Students learn the elements and principles of drawing from life, with the emphasis on basic anatomy and advanced compositional elements. Projects will incorporate advanced techniques and non-traditional media. **Prerequisite:** ART 103

ART 252 Painting II: The Figure (3 CR)

Student works will be primarily paintings from the costumed model. Students extend learning to solve problems dealing with complex compositional and color painting.

Prerequisite: ART 152

AUTOMOTIVE SERVICE TECHNOLOGY (AUT)**AUT 101 General Service (2 CR)**

This course is designed for those who wish to explore the automotive service technician occupation. Introductory exposure to the various service areas, along with student participation of various service tasks.

AUT 102 Engine Performance I (4 CR)

A comprehensive study including hands-on repair of the automobile's ignition and emission systems. Service procedures include scope analysis, compression testing, cylinder leak-down testing, component testing with digital multi-meters and lab

scopes, tune-up, and troubleshooting of the various systems. The combination of AUT 102 & 103 prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examinations required for mechanic licensing.

AUT 103 Engine Performance II (4 CR)

A comprehensive study including hands-on repair of the automobile's fuel and computerized engine control systems. Service procedures include fuel pressure testing, fuel injector testing, exhaust gas analysis, scan tool usage, component testing with digital multi-meters and lab scopes, and troubleshooting of the various systems. The combination of AUT 102 & 103 prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examinations required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course.

AUT 105 Automotive Brakes (3 CR)

A comprehensive study including hands-on repair of the automobile's braking systems. Service procedures include drum brake service, disc brake service, machining drums and rotors, parking brake service, hydraulic system repair, anti-lock brake system service, and troubleshooting the various systems. This course prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examinations required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course.

AUT 106 Suspension & Steering (3 CR)

A comprehensive study including hands-on repair of the automobile's steering and suspension systems. Service procedures include pre-alignment inspections, 4-wheel alignment, conventional suspension & steering systems, McPherson strut service, rack & pinion steering service, component replacement, and troubleshooting the various systems. This course prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examination required for mechanic licensing. Students are required to take the Michigan certification examination as an integral part of the course.

AUT 108 Automotive Air Conditioning & Heating (3 CR)

A comprehensive study including hands-on repair of the automobile's air conditioning and heating systems. Service procedures include cooling system service, refrigeration system service, control system repair, heater service, component testing, environmental issues (the ASE Refrigerant and Recovery Certification test is included and required), and troubleshooting the various systems. This course prepares the student with job

skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examination required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course.

AUT 112 Electrical Systems I (3 CR)

A comprehensive study including hands-on repair of the automobile's electrical system. Service procedures include basic electrical testing using test lights and multimeters, reading basic electrical schematics, battery service, starter service, alternator service, and troubleshooting the various systems. The combination of AUT 112 and 113 prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examination required for mechanic licensing.

AUT 113 Electrical Systems II (3 CR)

A comprehensive study including hands-on repair of the automobile's electrical system. Service procedures include basic electronics testing using digital multimeters, advanced electrical schematics, chassis wiring, lighting circuits, instrumentation, power seats, power windows, wiper systems, air bag systems, electrical accessories, and troubleshooting the various systems. The combination of AUT 112 and 113 prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examination required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course. **Prerequisite:** AUT 112

AUT 118 Diesel Fundamentals (2 CR)

This course is designed for those who wish to explore modern automotive and light truck diesel engines. This will include a study of diesel operating principles, fuel systems, engine construction, sub-systems, diesel maintenance, and diagnosis. Shop time will include disassembly, exploration, and reassembly of compact diesel engines.

AUT 201 Engine Repair (4 CR)

A comprehensive study including hands-on repair of the automobile engine. Service procedures include cooling system repair, lubrication system repair, intake systems repair, exhaust repair, engine testing, engine replacement, engine disassembly, cleaning and measurement, cylinder head reconditioning, block reconditioning, machining operations, assembly techniques, and troubleshooting the various systems. This course prepares the student with job skills for entry into the workforce and the knowledge for successfully completing the Michigan or ASE certification examination required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course.

AUT 202 Automatic Transmission (4 CR)

A comprehensive study including hands-on repair of automatic transmissions and transaxles. Service procedures include basic transmission service, transmission pressure testing, scan tool testing, transmission assembly replacement, transmission disassembly, inspection of parts, transmission reassembly, and troubleshooting the various systems. This course prepares the student with job skills for entry into the workforce and the knowledge to successfully complete the Michigan or ASE certification examination required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course.

AUT 204 Manual Transmissions & Drivelines (3 CR)

A comprehensive study including hands-on repair of manual transmissions, manual transaxles, and drivelines. Service procedures include transmission service, clutch overhaul, half-shaft repair, drive-shaft repair, differential service, axle repair, and troubleshooting the various systems. This course prepares the student with job skills for entry into the workforce and the knowledge to successfully complete the Michigan or ASE certification examination required for mechanic licensing. Students are required to take the Michigan certification test as an integral part of the course.

AUT 210 Co-op Experience (4 CR)

This co-op experience is paid on-the-job training. It prepares the student to acquire hands-on job skills and work habits in conjunction with the student's employment site. The student will work at a sponsoring repair shop or dealership approximately three days a week (or to be arranged with instructor's approval) performing a variety of automotive repairs. Visits by the school supervisor provide the basis for evaluation. Students are required to complete a total of one co-op experience in the associate degree program.

AUT 211 Co-op Experience (4 CR)

This co-op experience is paid on-the-job training. It prepares the student to acquire hands-on job skills and work habits in conjunction with the student's employment site. The student will work at a sponsoring repair shop or dealership approximately three days a week (or to be arranged with instructor's approval) performing a variety of automotive repairs. Visits by the school supervisor provide the basis for evaluation. Students are required to complete a total of one co-op experience in the associate degree program.

AUT 212 Co-op Experience (4 CR)

This co-op experience is paid on-the-job training. It prepares the student to acquire hands-on job skills and work habits in conjunction with the student's employment site. The student will work at a sponsoring repair shop or dealership approximately three days a week (or to be arranged with

instructor's approval) performing a variety of automotive repairs. Visits by the school supervisor provide the basis for evaluation. Students are required to complete a total of one co-op experience in the associate degree program.

AUT 245 Auto Lab Experience (4 CR)

Lab time to work on auto repair projects in which students have completed coursework or are currently enrolled. May be used as an internal co-op.

BIOLOGY (BIO)

BIO 131 General Biology (4 CR/F,W,S)

Students survey the basic biological principles that regulate the structure and function of cells; the production and use of energy; the genetic, environmental and evolutionary influences on organisms; and the interrelationships between organisms and their environment.

BIO 132 Human Biology (4 CR/F,W)

Students focus on the structure and function of the human body, the unity and diversity of life, the nature of scientific inquiry, and the principles and processes of evolution as well as contemporary issues that relate to biology.

BIO 151 General Botany (4 CR/F)

Emphasizes the development, anatomy, physiology and evolution of angiosperms. A survey of the plant kingdom with representative life cycles stresses relationships among plant groups. A strong biology background or instructor permission.

BIO 152 General Zoology (4 CR/W)

A comparative study of the anatomical and evolutionary relationships of the major animal phyla with emphasis on development, structure and function of vertebrate systems.

Prerequisite: BIO 131

BIO 155 Human Anatomy & Physiology (5 CR/F,W,S)

A lecture and laboratory course in the anatomy and physiology of the human body. Study begins with introductions to basic terminology and cell structure, then extends to a survey of the organ systems. Laboratory study enhances via microscopic study of tissues, the examination of preserved specimens and anatomic models, the use of interactive anatomy and physiology computer models, and cat dissection. A strong biology background, Biology 132, Medical Terminology or Body Structure and Function is recommended.

BIO 220 Microbiology (4 CR/F,W)

Basic structure and function of microorganisms with special emphasis on recent advances in microbiology, pathogens, disease, control and immunity. Strong Biology Background Recommended

BIO 230 Human Heredity (4 CR)

Basic fundamentals of genetics with particular emphasis on human heredity and genetic diseases.

BUSINESS (BUS)

BUS 101 Marketing (3 CR/F,W,S)

Students analyze the marketplace to identify customer wants and needs and develop strategies to satisfy them. Emphasis is placed on research, marketing environments, strategic planning, buyer behavior, and the marketing functions of product/service planning, pricing, promotion and distribution.

BUS 105 Customer Service (3 CR)

In the face of change, an uncertain economy, and intensive competition, the student will learn how to create an unexpected, highly evolving experience, to create customer loyalty and compelling word of mouth internal customers, in addition to paying customers will be the focus. The core elements of service quality will be applied to both people-centered and technology-centered businesses, industries and organizations.

BUS 131 Introduction to Business (3 CR/F,W,S)

The globalization of business from Moscow to Katmandu to New York is technology linked and culturally diverse. This has created new challenges in teamwork, ethical dilemmas, quality, competition, social responsibility and opportunities unheard of just five short years ago. This course will take you on an exploration of these challenges and direct you in successfully utilizing them in your future.

BUS 132 Advertising, Promotion & Public Relations (3 CR/W)

Students study the principles and practices of numerous promotional tools used in marketing communications. Topics include creation of advertising, media strategies, message appeals, plus the use of specialty advertising, sales promotion and public relations.

BUS 135 Business Law I (3 CR/F,W)

This course offers an introduction to law and the legal system, dispute resolution and courts, business ethics, torts, contracts, sales and leases of goods, and negotiable instruments.

BUS 145 Business Law II (3 CR)

The student will learn the law governing the forms of business organization, including agency, partnerships, corporations, and real and personal property.

Prerequisite: BUS 135

BUS 150 Leadership (3 CR)

Both knowledge and behavior contribute to the leadership skills needed to enhance the contribution of your team. Students explore shared vision and values, team building, and decision-making. You will study leadership theory in ways that encourage development of our leadership skills, including effective use of power and influence, motivational tools, personality assessment, team communication, role modeling, and performance appraisal.

BUS 155 Human Relations in Business (3 CR/E/W)

Understanding your self-concept, values, and goals is an indispensable tool in today's world. You will encompass these in a life plan while acquiring skills in emotional control, assertiveness, listening, conflict management, and image building to help you develop a successful, professional presence.

BUS 200 E-Commerce (3 CR)

This course studies the blending of business functions, the technology of the Internet. Business strategies are identified using Internet applications such as marketing, finance, and law within a global framework.

BUS 223 Human Resource Management (3 CR)

Create a desirable, productive work place by applying management skills in training, recruitment, team building, motivation and communication. The course also covers administration of benefits, safety and health, government regulation, composition and career development.

BUS 233 Sales (3 CR)

The course identifies various types of personal selling, buyer motives, sales psychology and the importance of building long-term relationships. Persuasive sales presentations are developed and given using steps of the selling process.

BUS 234 Business Management (3 CR/E/W,S)

Today's successful manager must have the ability to blend theories and application skills in a variety of situations. You will study the management theories of Taylor and Fayol, as well as Bill Gates and Lee Iacocca, in ways that will allow development of your managerial skills and understanding of power, leadership styles, motivation tools, organizational design, environmental scanning and change processes.

Prerequisite: BUS 131

BUS 235 Principles of Retailing (3 CR)

This course surveys the status of retailing today and its role in the economy. It examines the retail store and its customers, location, organization and management. It also covers aspects of merchandising such as buying, pricing, merchandise control, services and promotion.

BUS 236 Small Business Management (3 CR/W,S)

Do you have what it takes to own your own business? Discover that, as well as sources of financing, forms of legal ownership, niche marketing, and most importantly, how to avoid business failure.

BUS 243 Business Problems & Solutions (3 CR/W)

Course will use basic concepts learned in accounting, management, data processing, marketing and human resource management. Students will be given practical experiences through participation in computer-assisted management simulation and/or case studies. This will give students the opportunity to demonstrate and reinforce prior learning in their individual business curriculum.

COMPUTER ASSISTED DRAFTING (CAD)**CAD 121 Technical Drafting I (4 CR)**

First course in technical drafting sequence. Topics include basic projections, lettering, dimensioning, drafting standards and working drawings. **Prerequisite:** CAD 131

CAD 122 Technical Drafting II (4 CR)

Detailing of work drawings, including dimensioning, threads and fasteners, weld symbols, tolerances and allowances, and material selection; algebra, geometry and trigonometry are used. **Prerequisite:** CAD 121

CAD 131 Computer Assisted Drafting I (AutoCAD) (3 CR)

Course on the applications in which the phases of computer graphics are involved. A general introduction to drafting applications will be presented. **Recommended:** Windows and blue print reading experience

CAD 132 Computer Assisted Drafting II (AutoCAD) (3 CR)

This course is a continuation of Computer Assisted Drafting I; a more advanced application of drafting functions and skills will be presented. **Prerequisite:** CAD 131

CAD 133 Computer Assisted Drafting III (AutoCAD) (3 CR)

Working with 3D UCS Coordinate system, surfacing, solids modeling and re-engineering of 3D objects.

Prerequisite: CAD 132

CAD 140 Computer Assisted Drafting I - Micro Station (3 CR)

Course on the applications in which the phases of computer graphics are involved. A general introduction to drafting applications using Micro Station software will be presented.

Recommended: Windows and blue print reading experience

CAD 141 Computer Assisted Drafting II - Micro Station (3 CR)

This course is a continuation of Computer Assisted Drafting I-Micro Station; a more advanced application of drafting functions and skills will be presented. **Prerequisite: CAD 140**

CHEMISTRY (CEM)**CEM 121 Chemistry of Life (4 CR/E,W,S)**

This course meets the chemistry requirement for ADN nursing, elementary education and programs requiring a lab science course. It introduces the fundamental principles of general chemistry (structure of atoms and compounds, states, energy, equations, radioactivity, solutions and acids/bases), organic (structure and properties of major classes), and biochemistry (carbohydrates, proteins, lipids, metabolism and body fluids).

CEM 131 General Chemistry (4 CR/E,W)

Fills requirement for some non-science majors. Provides background for CEM 141 for those with no recent high school chemistry. Fundamental principles of chemistry such as states of matter, simple atomic and molecular structure, and the periodic classification of elements. The study of water emphasizes the properties of solutions and acid-base relations.

CEM 132 Organic & Biological Chemistry (4 CR/W)

This course is an extension of material covered in CEM 131. It is required in many bachelor's degree programs, including nursing. Organic topics include the structure, physical properties and chemical behavior of the major classes of organic compounds. The structure, function, formation and reactions of carbohydrates, fats, proteins, and nucleic acids are covered, including enzymes, chemical messengers, and biochemical energy production. **Prerequisite: CEM 131, CEM 141, or CEM 121 with a 3.0 or higher grade**

CEM 141 General Inorganic Chemistry (5 CR/E,W)
(REPLACES CEM 151)

This course is required for most sciences, engineering, and pre-professional health majors. Students who are required to take organic chemistry for their major should enroll in CEM 141 during their first semester. Topics include atomic and molecular structure, periodicity, chemical bonding, states of matter, kinetic molecular theory and stoichiometry. **Prerequisite: MTH 120**

CEM 142 General Inorganic Chemistry & Analysis (5 CR/W)
(REPLACES CEM 152)

This course is the second semester of general chemistry and extends material covered in CEM 141. Covered concepts include chemical thermodynamics, electrochemical reactions, reaction kinetics, acid-base theories, nuclear chemistry, and aqueous solutions with emphasis on equilibrium. Experiments include quantitative methods, stoichiometry, colorimetry, and gravimetric analysis. **Prerequisite: CEM 141**

CEM 241 Organic Chemistry (5 CR/F)
(REPLACES CEM 251)

Comprehensive study of the major classes of organic compounds, their structures and reactions. The stereo-chemical properties and spectra (IR and NMR) of molecules and their mechanisms of reactions are stressed. The laboratory experiments demonstrate techniques used in organic reactions, syntheses illustrating types of reactions, analysis of major classes of compounds and kinetic studies. **Prerequisite: CEM 142**

CEM 242 Organic Chemistry (5 CR/W)
(REPLACES CEM 252)

A continuation of CEM 241. **Prerequisite: CEM 241**

COMPUTER SCIENCE (CPS)**CPS 175 Computer Programming I Fortran (3 CR/F)**

Students explore the design, development, and testing of computer programs written in the FORTRAN language. A programming course for, but not limited to, engineering and computer science majors. **Corequisite: MTH 151**

CPS 177 CS1: Science & Engineering (3 CR/W)

Students study digital computing systems and how they are used to solve problems in science and engineering. Students use procedural and object-oriented programming capabilities of C++ to design, develop, and test computer programs involving topics as integration, differentiation, linear systems, etc. A computer science course for, but not limited to, engineering and computer science majors. **Prerequisite: MTH 151**

CPS 217 Computer Science II (3 CR)

A continuation of CPS 177. Students are introduced to major data structures used for data storage and processing. These include arrays, lists, stacks, queries, and trees. Algorithms for searching, sorting, and updating structures are developed and analyzed. **Prerequisite: CPS 177**

CRIMINAL JUSTICE (CRJ)**CRJ 101 Criminal Law (3 CR/E/W)**

Covers both substantive and procedural law at local, state, and federal levels. Special emphasis on the Michigan Penal Code and landmark court decisions.

CRJ 102 Criminal Investigation (3 CR/F)

Fundamentals of criminal investigation; theory and practice; crime scene to courtroom with emphasis on techniques appropriate to specific crimes.

CRJ 104 Criminal Justice Psychology (3 CR/E/W)

An overview of criminal behavior from a psych-social perspective. Contemporary research, theory and practice concerning the psychology of crime are reviewed.

CRJ 111 Introduction to Criminal Justice (3 CR/E/W)

History, evolution and philosophy of the American criminal justice system. Emphasis on the interrelationship of system components: police, attorneys, courts and corrections.

CRJ 112 Crime & Delinquency (3 CR/F)

Introduction to deviant behavior and current criminological theories with emphasis on synthesis and police applications to juveniles; diversion and status offenses considered.

CRJ 113 Introduction to Criminalistics (3 CR)

Scientific methods applied to the collection, identification, preservation and transportation of physical evidence. Taught in a laboratory setting.

CRJ 114 Police Administration & Operations (3 CR/W)

Administration and operation of a police department including line/staff activities.

CRJ 116 Fire Investigation I (3 CR)

Reviews arson and fire laws and their application. Investigative methods unique to the fire scene will also be covered. Particular value to criminal justice students and fire fighting personnel.

CRJ 117 Criminology (3 CR/E/W)

(SAME AS SOC 117)

This course is based upon theories and studies involving the nature, social construction and causes of crime, criminal behavior and criminal justice processes.

CRJ 118 Criminal Evidence (3 CR)

Nature and types of criminal evidence. Rules governing the admissibility of evidence at trial. Direct and circumstantial evidence. Presentation of physical testimony and other material evidence. **Prerequisite:** CRJ 101

CRJ 119 Client Growth & Development (3 CR/E/W,S)

A corrections-oriented course involving the study of normal versus criminal behavior, human development and criminal pattern. Also involves the study of specific problems including substance abuse, sexual and medical problems and disorders.

CRJ 120 Human Relations for Corrections (3 CR/E/W,S)

A study of the meaning and function of culture and the social and psychological implications of discrimination. Also involves a survey of minorities in Michigan, attitude formation and professional responsiveness.

CRJ 121 Introduction to Corrections (3 CR/E/W,S)

A survey of the American corrections system as a component of the criminal justice system.

CRJ 122 Corrections Administration & Operations (3 CR)

Administration and operation of a correctional facility from an administrator's perspective. Principles of organization and management as applied to a modern correctional facility will be covered.

CRJ 124 Institution Populations (3 CR/E/W,S)

The nature, composition and dynamics of the prison population as a separate society are central topics in this course.

CRJ 125 Parole & Probation (3 CR)

Pre and post institutional treatment and alternatives are presented. Consideration also given to diversion and community-based correctional programs.

CRJ 127 Corrections Law (3 CR/E/W,S)

Deals with the law as it applies to the correctional system. Applicable court cases and legislation will be considered. Topics will include sentencing, prisoners' rights and responsibilities; loss of rights, prisoner remedies; community corrections and restoration of rights of offenders.

CRJ 203 Field Studies (3 CR)

(SAME AS SOC 203)

Only open to students who have reached sophomore level (26 or more credit hours), minimum 2.5 GPA and permission of the department. An opportunity for students to work for one semester in a law enforcement agency.

DANCE (DAN)**DAN 121 Jazz Techniques (3 CR) (SAME AS HPF 221)**

Designed for the beginner who has had little or no recent dance experience. Explores contemporary jazz technique, the elements of dance, improvisation and composition work.

DIAGNOSTIC MEDICAL SONOGRAPHY (DMS)**DMS 100 Introduction to Diagnostic Imaging (3 CR/F,W,S)**

Students are introduced to the radiologic sciences. Modalities discussed include X-rays, nuclear medicine, ultrasound, computerized axial tomography (CAT), magnetic resonance imaging (MRI) and photon emission tomography (PET). Students learn indications for a variety of diagnostic studies, how they are evaluated and interpreted, correlations of multiple studies, and how to prepare the patient for the study.

DMS 101 Sonographic Orientation (3 CR/S)

This course prepares sonography students for their clinical work-site experiences. Students will explore interpersonal relationship skills, ethical decision-making, and a review of clinical technical skills as they relate to the on-site work experience. Students will learn basic cross-sectional anatomy as related to beginning sonographic scanning of the abdomen.

Prerequisite: Acceptance into DMS program

DMS 104 Introduction to Sonographic Instrumentation (3 CR/S)

Students will learn the history and basic principles of static and real-time ultrasound machines. The instrumentation of A-mode and its conversion into the real time B-mode scanners will be explored. Laboratory assignments reinforce learning activities. **Prerequisite:** MTH 131

DMS 105 Sonographic Techniques (3 CR/F)

This course instructs the DMS student in scan planes, anatomical positioning, scan protocols, scan preparations, scan scheduling, appropriate history recording, correlations with other diagnostic procedures, and the techniques required for initiating and completing diagnostic sonographic procedures of the abdominal, obstetrical and gynecological patients.

Prerequisites: DMS 101 and DMS 104

DMS 107 Sonographic Orientation—Vascular (3 CR)

This course prepares sonography students for their clinical work-site experiences. Students will explore interpersonal relationship skills, ethical decision-making, and a review of clinical technical skills as they relate to the on-site work experience. Students will learn basic cross-sectional anatomy as related to beginning sonographic scanning of the abdomen and arterial venous systems.

DMS 110 Interpretation I (4 CR/F)

In-depth cross-sectional anatomy related to sonographic scanning of the abdomen, pelvis, and gravid uterus are presented. Specific attention to the coursing of vessels from points of origin to their location of termination is stressed and mastery level achievement is encouraged and expected.

Prerequisite: DMS 101

DMS 122 Clinical Experience I (6 CR/F)

Students receive supervised clinical work experience in an approved clinical education center. This course provides basic scanning opportunities, patient interviewing techniques, professional attitudes and ethics, and other basic patient/professional situations under the direct supervision of a registered diagnostic medical sonographer (RDMS). Completion of professional and technical scanning proficiencies are required. A minimum of 450 clinical hours are required to complete this course. **Prerequisite:** DMS 101

DMS 140 Sonographic Orientation & Technique (3 CR)

Prepares students for their clinical work-site experiences. Students will explore interpersonal relationship skills, ethical decision-making, and a review of clinical technical skills as they relate to the on-site work experience. Students will learn basic cross-sectional anatomy of the heart and will focus on beginning scanning techniques.

DMS 141 Adult Echo I (4 CR)

This course will instruct students to the normal anatomy and physiology of the adult heart. Topics will include ventricular wall segments and nomenclature, normal values and measurements determined by 2-D and m-mode calculations, normal physiology and coronary artery circulation.

Corequisite: DMS 140

DMS 143 Echo Clinical I (3 CR)

Students receive 240 hours of supervised clinical experience in an echo lab at an approved medical facility. This course provides hands-on experience in basic cardiac imaging, patient care, and application of knowledge and skills acquired in DMS 140 and DMS 141. **Corequisites:** DMS 140, DMS 141

DMS 144 Cardiovascular Principles (3 CR)

This course is a study of cardiac physiology, intracardiac pressures and principles of flow, cardiac hemodynamics and principles of Doppler. Problem solving, evaluation and performing basic echocardiographic interpretation will be covered in this course. **Prerequisite:** DMS 140, DMS 141

DMS 147 Echo Clinical II (5 CR)

Students receive 384 hours of supervised clinical experience in an echo lab at an approved medical facility. This course provides hands-on experience in intermediate level cardiac imaging, use of cardiovascular equations, and application of knowledge and skill acquired in DMS 144.

Prerequisite: DMS 143 **Corequisite:** DMS 144

DMS 151 Peripheral Arterial I (3 CR/F)

This course facilitates student learning of diagnostic testing methods for the peripheral arterial systems of the upper and lower extremities. Testing methods covered will include segmental pressures, Color Doppler Imaging (CDI) and duplex sonography. **Prerequisite:** BIO 155

DMS 152 Peripheral Arterial II (3 CR/W)

This course, a continuation of DMS 151, facilitates student learning of diagnostic testing methods for the peripheral arterial systems of the upper and lower extremities. Testing methods covered will include segmental pressures, color Doppler imaging (CDI) and duplex sonography. Abdominal vascular testing techniques will be included. **Prerequisite:** DMS 151

DMS 155 Peripheral Venous (3 CR/F)

This course facilitates student learning of diagnostic testing methods for the peripheral venous systems of the upper and lower extremities. Venous hemodynamics and testing methods covered include all areas of color Doppler imaging (CDI), air and photo plethysmography. **Prerequisite:** BIO 155

DMS 161 Vascular Clinical I (4 CR/F)

Students receive 300 hours of supervised clinical experience in an approved vascular laboratory. This course provides hands-on experiences in basic color Doppler imaging (CDI), hemodynamics, segmental pressures and duplex sonography. Students are instructed and supervised by registered vascular technologists. Completion of clinical competencies is required to complete this course.

DMS 206 Sonographic Instrumentation (4 CR/W)

Students explore the mechanics of A-mode, B-mode, M-mode, Doppler, and real time equipment. Accessory equipment such as cameras, transducers, phased, annular and linear arrays, and all types of hard copy documentation instruments are investigated. Multiple methods of preventative maintenance and quality control are presented. Laboratory reinforces learning activities.

DMS 211 Interpretation II (4 CR/W)

Students learn advanced cross-sectional anatomy and pathology as related to sonographic scanning of the abdomen, pelvis, and gravid uterus. The class gives specific attention to pathological change of specific, non-specific diseases, and trauma as they relate to sonographic imaging and sonographic interpretation of the abdomen, pelvis, gravid uterus, and small parts. Mastery level achievement is encouraged and expected. **Prerequisites:** DMS 110 & DMS 122

DMS 212 Interpretation III (4 CR/S)

Advanced scanning practices with introduction to cardiac, peripheral vascular, neurosonography, breast, prostate, and musculoskeletal scanning. Invasive procedures and intra-operative scanning protocols and techniques will be enhanced upon. Opportunity and aid is given for ARDMS board applications. Extensive review of all facets of sonography is included in preparation for the ARDMS board exams.

Prerequisites: DMS 211 & DMS 223

DMS 223 Clinical Experience II (6 CR/W)

Supervised clinical experience in an approved clinical education center. Advanced scanning techniques to demonstrate cross-sectional anatomy and pathology of specific and non-specific disease and traumatic changes. Specific attention is given to fetal development, fetal anomalies, abnormal pre-natal and maternal conditions as they relate to sonographic scanning and interpreting of images. Although the student is still under the supervision of an RDMS professional, the student is expected to perform sonographic procedures independently as a regular portion of this course. Completion of professional and technical scanning proficiencies are required. A minimum of 450 clinical hours are required for successful completion of this course. **Prerequisite:** DMS 122

DMS 224 Clinical Experience III (6 CR/S)

Supervised clinical experience in an approved clinical education center. Advanced scanning procedures, methods and experience are provided in this course. Students experience advanced scanning modalities via M-mode, Doppler, 3 D, real-time and invasive procedures. Comparative interpretations of sonographic imaging with other diagnostic imaging modalities are provided. Scanning experience is coupled with image interpretation sessions with the radiologists. Students are expected to initiate, perform, and complete all sonographic procedures with direct supervision by an RDMS. Successful completion of professional and technical scanning proficiencies are required. A minimum of 450 clinical hours are required to successfully complete this course.

Prerequisites: DMS 211 & DMS 223

DMS 230 Breast Ultrasound (3 CR)

Breast ultrasound provides instruction in sonographic imaging of the human breast in normal and altered states. Students will learn embryology of the breast, advanced cross-sectional anatomy and pathology as related to sonographic scanning of the breast. The course gives special attention to pathological changes of specific and non-specific diseases, and trauma as they relate to sonographic imaging and interpretation of the breast. Sonographic correlation with other imaging modalities, biopsy techniques, ductography, sentinel node procedures, histology of the breast, and implants will be highlighted. Mastery level achievement is necessary and

expected to be successful within this course. **Prerequisites:** ARDMS or ARRT credentials or successful completion of DMS 211 & 223

DMS 240 Adult Echo II (4 CR)

Students will focus on the abnormal heart. Acquired valvular disease by m-mode, two dimensional and Doppler techniques will be learned. Coronary artery disease, diseases of the myocardium, cardiac masses and tumors, pericardial disease and diseases of the aorta will be studied. Students will also learn the various appearances of congenital heart disease in the adult heart. **Prerequisites:** DMS 140, DMS 141 AND DMS 144

DMS 242 Echo Clinical III (7 CR)

Students receive 512 hours of supervised clinical experience in an echo lab at an approved medical facility. This course provides hands-on experience at an advanced level of cardiac imaging and use of cardiovascular equations. Interpretation skills will apply. **Prerequisites:** DMS 143 and DMS 147
Corequisites: DMS 240 and DMS 206

DMS 251 Cerebrovascular I (3 CR/W)

Facilitates student learning of diagnostic testing methods and hemodynamics of the extracranial vessels of the head and neck. Testing methods covered include color Doppler imaging (CDI) and duplex sonography. **Prerequisite:** BIO 155

DMS 253 Cerebrovascular II (1 CR)

Continuation of DMS 251, Facilitates student learning of diagnostic testing methods and hemodynamics of the intracranial vessels. Testing methods covered include color Doppler imaging (CDI) and duplex sonography.
Prerequisite: DMS 251

DMS 265 Vascular Clinical II (4 CR/W)

A continuation of DMS 161. Students receive 300 hours of supervised clinical experience in an approved vascular laboratory. Provides hands-on experiences in basic and advanced color Doppler imaging (CDI), hemodynamics, segmental pressures and duplex sonography. Students are instructed and supervised by registered vascular technologists. Completion of clinical competencies required to complete this course.

DMS 266 Vascular Clinical III (4 CR/S)

A continuation of DMS 265. Students receive 300 hours of supervised clinical experience in an approved vascular laboratory. Provides hands-on experiences in advanced color Doppler imaging (CDI), hemodynamics, segmental pressures and duplex sonography. Students are instructed and supervised by registered vascular technologists. Completion of clinical competencies is required to complete this course.

ECONOMICS (ECN)

ECN 231 Macroeconomics (3 CR/F,W,S)

Covers macroeconomics. Explains the operation of free markets, the role of government in the economy, measurement of the national product, inflation and unemployment, monetary and fiscal policy, and economic growth.

ECN 232 Microeconomics (3 CR/F,W,S)

Concerns microeconomics, the market structure of firms operating in competition and monopoly, labor markets and unions, how income is distributed, current economic problems, international economics, and alternative economic systems.

EARLY CHILDHOOD EDUCATION (ECE) (formerly EDU)

ECE 130 Emergent Literacy (3 CR)

Based on the assumption that literacy begins long before a child's exposure to formal instruction, this course offers a blend of theory and application while enhancing the students understanding of emergent literacy. It explores the development and assessment of language and writing, the role of children's literature and shared language time, and the teacher's role in designing learning activities and providing a literacy-rich environment. Two observations outside of the scheduled class time will be required.

ECE 131 Working with Infant/Toddler (3 CR)

Working with children ages birth-3 years is not a scaled-down version of preschool. In this course, students study young infants (birth-8 months), Mobile infants (9-17 months) and toddlers (18-36 months). In preparation for providing quality care, students explore ways: 1) to establish and maintain a safe and healthy learning environment; 2) to advance physical and intellectual competence; 3) to support social and emotional development and provide positive guidance; 4) to establish positive and productive relationships with families; 5) to ensure a well-run, purposeful program responsive to participant needs; and 6) to maintain a commitment to professionalism. Two observation/field experiences outside the scheduled class time (associated with CDA competency areas) will be required. This course can be used, with others, to meet educational requirements for application to the Council for Professional Recognition for an Infant/Toddler Child Development Associate Certificate.

ECE 132 Working with Exceptional Children (3 CR)

Young children with special needs are increasingly receiving services in integrated settings along with their typically developing peers. In preparation for providing successful inclusion experiences, students explore: 1) the uniqueness of early childhood as a developmental phase; 2) the significant role of families in early education and intervention; 3) the role of developmentally and individually appropriate practices; 4) the importance of culturally competent professional behavior; and 5) the importance of collaborative interpersonal and inter-professional actions. One observation/field experience outside of the scheduled class time for each competency area is required.

ECE 133 Program Management (3 CR)

A high quality early childhood program is one that meets the needs of and promotes the physical, social, emotional and cognitive development of the children and adults—parents, staff and administrators—who are involved in the program. In preparation for administering a high quality program, students explore: 1) administration, organization and operation strategies - principles of management, 2) physical and programmatic environments, 3) curriculum, 4) staffing - selection and development, 5) communication - child-staff-parent interactions, 6) collaboration, 7) program evaluation, and 8) accreditation. Students will need to be working in, or have access to a program, where they can conduct two interviews/observations outside of the scheduled class time.

ECE 140 Early Childhood Guidance (3 CR)

This course explores issues related to health and safety within an early childhood setting and examines strategies in communicating and guiding the behaviors of young children. Methods and materials to enhance self-concept will also be explored. Students will learn about: 1) providing a safe environment to prevent and reduce injuries; 2) promoting good health and nutrition, and providing an environment that contributes to the prevention of illness; 3) actively communicating with children and providing opportunities and support for children to understand, acquire, and use verbal and non-verbal means of communicating thoughts and feelings; 4) providing physical and emotional security for each child and helping each child to know, accept and take pride in self, and to develop a sense of independence; and 5) providing a supportive environment in which children can begin to learn and practice appropriate and acceptable behaviors as an individual and as a group. These are 5 of the CDA competency standards. One observation outside the scheduled class time for each competency area is required.

ECE 142 Professionalism in Child Development (3 CR)

This course focuses on professionalism, families and program management. Students will: 1) explore strategies in communicating and establishing productive relationships with families, including maintaining an open, friendly, and cooperative relationship with each child's family that encourages their involvement in the program and supports the child's relationship with their family; 2) explore strategies for utilizing all available resources in order to manage an effective program operation by being a competent organizer, planner, record keeper, communicator and cooperative co-worker, and 3) address issues of professional commitment, ethical practices and advocacy in order to promote quality in early care and education service. These are three of the CDA competency standards. Students will also learn observation techniques and ways to individualize programming for young children. One observation outside the scheduled class time for each competency is required.

ECE 143 CDA Assessment Preparation (1 CR)

This course is designed to assist the student in preparing for direct assessment for the Child Development Associate Credential or CDA. The course includes guidance in preparation of documentation and review of standards related to 13 functional areas. All requirements will follow the recommendations of the Council for Professional Recognition. *Only students preparing an application for the CDA credential should enroll.* **Prerequisites:** ECE 140, ECE 142 and ECE 144

ECE 144 Early Childhood Education (3 CR)

(SAME AS EDU 246)

This course focuses on skills needed by providers in an early childhood setting. With a basis in early childhood development, the course content examines the meaning, importance, materials and methods in providing an appropriate learning environment for young children and enhancing social, physical, cognitive and creative development. Students will explore: 1) learning environments in terms of space, relationships, materials and routines as resources for constructing an interesting, secure, and enjoyable learning environment that encourages play, exploration and learning; 2) how to promote the physical development of children through the use of a variety of equipment, activities and opportunities; 3) enhancing the intellectual competence of children by providing activities and opportunities that encourage curiosity, exploration and problem-solving appropriate to the developmental levels and learning styles of children; 4) ways to provide opportunities that stimulate children to play with sound, rhythm, language, materials, space and ideas in individual ways and to express their creative abilities, and 5) social development in children through group acceptance, communication and getting along with others, empathy and mutual respect among children and

adults. These are five of the CDA competency standards. One observation outside the scheduled class time for each competency area is required.

ECE 150 Directed Teaching I (2 CR)

This course is designed to provide opportunities for students to integrate theory and practice in a childcare setting. Directed Teaching I allows for guided experiences with children, families and collaborative service partners under the supervision of a mentoring teacher. Through direct work in a childcare setting, journals, group discussions and individual instructor observations and meetings, students will build upon their understanding of the best possible current practices in early childhood education. Directed Teaching I focuses on the physical and programmatic environment. One hundred (100) clock hours of direct classroom experience are required.

Prerequisite: ECE 140 and ECE 144

ECE 151 Directed Teaching II (2 CR)

This course is designed to provide opportunities for students to integrate theory and practice in a childcare setting. Directed Teaching II allows for guided experiences with children, families and collaborative service partners under the supervision of a mentoring teacher. Through direct work in a childcare setting, journals, group discussions and individual instructor observations and meetings, students will build upon their understanding of the best possible current practices in early childhood education. Focus for Directed Teaching II includes factors that influence learning and lesson planning experience. One hundred (100) clock hours of direct classroom experience are required. **Pre- or Co-requisite:** ECE 150

ECE 152 Directed Teaching III (2 CR)

This course is designed to provide opportunities for students to integrate theory and practice in a childcare setting. Directed Teaching III allows for guided experiences with children, families and collaborative service partners under the supervision of a mentoring teacher. Through direct work in a childcare setting, journals, group discussions and individual instructor observations and meetings, students will build upon their understanding of the best possible current practices in early childhood education. Focus for Directed Teaching III includes observation and assessment, individualized planning and communication with parents. One hundred (100) clock hours of direct classroom experience are required. **Prerequisite:** ECE 151 and ECE 142

EDUCATION (EDU)

EDU 121 Exploring Teaching (3 CR/E/W)

"What are the things prospective teachers beginning their formal study of teacher education should know?" Students will gain a broader knowledge of the role of professional teacher and education components: schools, students, teachers and current issues. Students will explore and experience key concepts and skills through reading, research, discussions, design, execution and presentation of a lesson, professional portfolio development, technology, and 30 hours of educational site-based documented experiences.

ELECTRONIC TECHNOLOGY (ELT) (formerly EET)

ELT 070 Basic Industrial Electricity (2 CR)

Fundamentals of electricity covering such topics as: voltage, current and resistance; Ohm's Law; series circuits; parallel circuits; AC, DC, power; capacitors; inductance; transformers; various solid state devices; motors of various types. Class is designed for general maintenance mechanics, heating/refrigeration/air conditioning mechanics, other non-electrician uses.

ELT 074 National Electric Code (2 CR)

Study of the national and local electric code for wiring and apparatuses. Covers wiring design and protection, wiring methods and materials, equipment for general use including motors and controllers, special occupancies such as hazardous location; special equipment such as electric welding machine tool wiring, and the use of tables and diagrams for the solution of practical wiring problems.

ELT 119 DC Fundamentals (3 CR)

Students examine the fundamental concepts of DC circuits including electricity, Ohm's law, resistance, and power. Series and parallel circuits will also be explored.

ELT 120 Circuit Analysis I (4 CR)

Students examine the fundamental concepts of DC circuits including electricity and magnetism, resistance, capacitance, inductance, series and parallel circuits, power and basic electrical measurements.

ELT 124 AC Fundamentals (2 CR)

A study of alternating electrical current is presented. Topics include AC measurements, inductive reactance and capacitive reactance in AC circuits. Transformers are also explored.

ELT 125 Circuit Analysis II (3 CR)

A study of alternating electrical current is presented. Topics include AC measurements, resistance, inductance and capacitance in AC circuits. Transformers and filters are explored.

Prerequisite: ELT 120

ELT 129 Semiconductor Devices (2 CR)

A study of electronic devices including diodes, transistors, integrated circuits, and other semiconductor devices; their characteristics and application to practical circuitry.

ELT 130 Electronics I (4 CR)

Study of electronic devices including diodes, bipolar and field effect transistors, integrated circuits, and other semiconductor devices; their parameters, nomenclature, characteristics, and application to practical circuitry. **Prerequisite:** ELT 125

ELT 139 Digital Electronic Fundamentals (3 CR)

A beginning course in digital electronics. Topics include number systems, basic logic gates, counters, shift registers. Decoders and encoders will also be explored.

ELT 140 Introduction to Digital Electronics (4 CR)

Beginning course in digital electronics. Topics include number systems, Boolean algebra, and basic logic gates and circuits.

ELT 148 Electrical Math I (2 CR)

Introductory course beginning with algebra involving addition, subtraction, multiplication, division, equations, powers of ten, Ohm's Law, factoring, and other functions of math related to electrical problem solving.

ELT 149 Electrical Math II (2 CR)

Advanced course covering angles, trigonometric problems, right triangles, equations, vectors, periodic functions and related math applications as a tool of the trade. **Prerequisite:** ELT 148

ELT 150 Residential Wiring (2 CR)

How to interpret residential blueprints, wiring diagrams, wiring systems, and supplementary information contained in the specifications, as well as requirements of the National Electric Code. Covers symbols and outlets, determining the number of circuits, conductor size and types, switch controls, heaters, water pumps, service entrance, furnace hook-up, and low voltage wiring.

ELT 151 Commercial Wiring (2 CR)

Learn to interpret wiring plans of commercial buildings for the electrical installation involved, as well as requirements of three phase 208/120 volt system, a variety of commercial occupancies, lighting fixtures, service entrances and metering facilities.

ELT 152 Industrial Wiring (2 CR)

Covers preliminary plan study, sub-station and high-voltage metering equipment, feeder duct and distribution transformers, panel boards and sub-feeders, lighting circuits, motors and controllers, precipitron units, synchronous condensers, three-way phase trolley ducts, signal systems, ventilating and alternate methods of feeder layout.

ELT 215 Electrical Troubleshooting (2 CR)

Troubleshooting in various areas such as: control circuits, combination starters, control devices, special controls, DC motors, AC motors, lighting systems with use of schematics, building drawings, and with emphasis on cutting troubleshooting time.

ELT 220 Industrial Motion Control (3 CR)

Motion controls as used in real world situations. Including PLC, Robotics, Servos, Sensing devices, Actuators, and Controls. **Prerequisite:** ELT 119, ELT 124, and ELT 139

ELT 250 Electric Motors & Controls (4 CR)

Basic principles involved in the operation of motors and controls. Study includes single-phase motors and their operating principles, polyphase systems and the various control devices used with these systems.

ELT 260 Basic Programmable Controllers (4 CR)

Basic programmable controllers course for apprentices and skilled trades trainees looking at the history, characteristics, application and limitation of PCs. Numeration systems, binary-coded decimals, ASCII, gray code and Boolean logic studied. Additional study includes input/output devices, processing and programming functions, program development, documentation, start-up and troubleshooting.

ELT 265 SLC 500 Programming & Troubleshooting (2 CR)

Students will gain skills in programming and troubleshooting real world inputs and outputs. Hands-on instruction is used exclusively.

ELT 266 RSLOGIX Programming & Troubleshooting (2 CR)

For RSLOGIX programming and troubleshooting. Topics include adding rungs, addressing I/O, online and offline editing and troubleshooting tools.

ELT 270 Communications Circuits (4 CR)

Circuits and theory related to electronic communication. Topics covered include RF amplifiers and oscillators, modulation and detection, fiber optics, antennas, digital techniques, transmitters and receivers.

Prerequisite: ELT 125 and ELT 130

ELT 275 Robotics Systems (2 CR)

Designed to investigate the industrial robot and its role in an integrated manufacturing system. Topics include robot classification, work cells, tooling, sensors, programming, and system integration.

ELT 280 Digital Systems (4 CR)

Hardware organization of digital systems with emphasis on microprocessors and minicomputers. Treatment extends from general programming and interfacing techniques common to all microprocessors to the operation, programming, and applications of representative microprocessor families.

Prerequisite: ELT 140

ENGINEERING (EGR)**EGR 100 Introduction to Engineering (4 CR/F)**

This course will introduce students to the field of engineering. Students will become familiar with each major area of specialization. Emphasis will be placed on problem solving techniques and interpretation of data and results. Replaces EGR 153.

EGR 261 Engineering Mechanics I (4 CR/F)

Students survey the fundamentals of solid mechanics. This course covers equilibrium, static equivalence, stress, strain, material behavior, particular application to deflection of beams and axial, bending, torsion, shear and combined stresses, as well as an introduction to stability of columns.

Prerequisite: MTH 154

EGR 262 Engineering Mechanics II (4 CR/W)

Students examine the principles of dynamics, including the motion of a particle, the kinematics and kinetics of plane motion of rigid bodies, the principle of work and energy, impulse and momentum, and mechanical vibrations. **Prerequisite:** EGR 261

EMERGENCY MEDICAL SERVICES (EMS)**EMS 110 CPR & First Aid (2 CR)**

(SAME AS NUR 110 & HOC 110)

Provides instruction in adult, child and infant cardiopulmonary resuscitation, as well as standard first aid. It is designed to prepare an individual to handle medical or accidental emergencies until professional help arrives or until the victim can seek help, and to handle minor injuries that do not require professional assistance. Upon successful completion of this course the student is qualified to receive CPR and Standard First Aid certificates through the Red Cross.

EMS 125 EMT: Ambulance (6 CR/F)

Part I of a two semester EMT-A course. Completion of a clinical practicum is required and must be arranged on student's time. Completion of EMT 125 and EMT 126 enables student to take Michigan EMT Licensing exam. Lab included.

EMS 126 EMT: Ambulance (6 CR/W)

Part II of a two semester EMT-A course. Completion of a clinical practicum is required and must be arranged on student's time. Completion of EMT 125 and EMT 126 will enable student to take Michigan EMT Licensing exam.

Prerequisite: EMS 125

EMS 211 Paramedic I (8 CR/F)

Paramedic course leading to certification as advanced emergency medical technician. First semester covering medical, legal, patient assessment, acid base balance, IV therapy, and respiratory. **Prerequisite:** BIO 155 or can be taken concurrently

EMS 212 Paramedic Lab I (2 CR/F)

Laboratory for EMS 211.

EMS 213 Paramedic Clinical I (2 CR/F)

Clinical for EMS 211.

EMS 221 Paramedic II (8 CR/W)

Continuation of paramedic training, covering cardiology and pharmacology. **Prerequisite:** EMS 211

EMS 222 Paramedic Lab II (2 CR/W)

Laboratory for EMS 221.

EMS 223 Paramedic Clinical II (2 CR/W)

Clinical for EMS 221.

EMS 231 Paramedic III (8 CR/S)

Continuation of paramedic training, covering medical emergencies, environmental emergencies and psychological emergencies. **Prerequisite:** EMS 221

EMS 232 Paramedic Lab III (2 CR/S)

Laboratory for EMS 231.

EMS 233 Paramedic Clinical III (2 CR/S)

Clinical for EMS 231.

EMS 242 Paramedic Lab IV (2 CR)

This is the fourth and final lab in the paramedic program. During this lab time the student will review all practical skills in order to better prepare for the National Registry exam. In addition, the student will practice written test taking skills with sample tests and a national review manual. Class will meet every other week for the full semester of 16 weeks allowing 8 lab sessions. **Prerequisite:** EMS 231

EMS 243 Paramedic Clinical IV (6 CR)

This is the final clinical rotation for senior paramedic students. Students will schedule one EMS Ambulance shift per week along with one hospital shift per week. This clinical rotation will last for the full semester of 16 weeks.

Prerequisite: EMS 231

ENGLISH (ENG)**ENG 101 Introduction to Writing (3 CR/F,W,S)**

Intensive course in composition for students who need supplementary help in writing. A personal approach helps students enhance their writing abilities, resolve writing problems and explore writing strategies.

ENG 102 Introduction to Writing (3 CR/F,W,S)

Intensive course in composition for students who need supplementary help in writing. A personal approach helps students enhance their writing abilities, resolve writing problems and explore writing strategies.

ENG 106 Publication Newspaper (3 CR/F,W)

Students work with editors and advisors of college newspaper in reporting, copywriting, photography, layout, make-up, advertising sales and financing. May be repeated once for credit.

ENG 109 Reading Essentials (3 CR/F,W,S)

Provides the most fundamental support for students who need to develop college-level reading skills. Students must show an ability to read some pre-college writing independently. They are provided with a sequentially structured approach to comprehending college-level writing. Student writing is a significant component.

ENG 110 College Reading (3 CR/F,W,S)

Intended for students who have developed their reading skills nearly to the college level. Further skill and knowledge development focuses on the common patterns of text found in both narrative and expository writing, on strategies for self-monitoring and memory enhancement, and on the development of vocabulary typically found in college level textbooks. Student writing is a significant component.

ENG 131 Writing Experience (3 CR/F,W,S)

An intensive, personalized writing course designed to meet the needs of students from a wide range of disciplines. Course is designed to help students become comfortable and confident with their writing while working to improve and refine skills. Frequent writing and conferences. Research methodology and documentation included.

ENG 132 Writing Experience (3 CR/F,W,S)

Continuation of the writing instruction and practice begun in English 131 with an emphasis on critical thinking, information gathering and those forms of writing useful to academic and professional life. Research paper required.

Prerequisite: ENG 131

ENG 206 Publication Newspaper (2 CR/F,W)

Students work with editors and advisors of college newspaper in reporting, copywriting, photography, layout, make-up, advertising sales, and financing. May be repeated once for credit. **Prerequisite:** ENG 106

ENG 210 Introduction to Film (3 CR/W)

Students are introduced to film as a visual art and to basic film terms and techniques, such as composition, movement, editing and sound. Readings in film history, genre, theory and criticism. Includes JCC Winter Film Series.

Prerequisite: ENG 131

ENG 232 Technical & Business Writing (3 CR/F,W,S)

A course designed to provide practice in a variety of written and oral communications to meet the requirements of the workplace. Projects may include mechanism descriptions, instructions, resumes, proposals, feasibility and other reports. Frequent writing, both in and out of class, as well as oral presentations, group projects, and individual conferences.

Prerequisites: ENG 131

ENG 236 Women In a Changing Society (3 CR/W)

(SAME AS SOC 236)

Inquiry into historical and changing roles of women, looking at causes of these changes and their effects on women and society through literature, sociology, biology and history.

Prerequisite: ENG 131

ENG 246 Short Story & Novel (3 CR/F,W)

Students are introduced to traditional and contemporary fictional genres. This course emphasizes understanding, appreciation, and the critical analysis of narrative art. Selections for study are chosen from English and American literature as well as world literature in translation. **Prerequisite:** ENG 131

ENG 247 Poetry & Drama (3 CR/F,W)

Students are introduced to lyric and dramatic genres. This course emphasizes understanding, appreciation, and enjoyment of poetry and theatre as language performances and literary forms. Selections for study are chosen from English and American literature as well as world literature in translation.

Prerequisite: ENG 131

ENG 249 African-American Literature (3 CR)

Survey of the literature of African-American writers. Emphasis is on the major writers in narrative, poetry, fiction, essay and drama. **Prerequisite:** ENG 131

ENG 252 Shakespeare (3 CR/W)

Students read representative plays and are introduced to the Elizabethan world. Course emphasizes developing understanding, appreciation, and critical analysis skills. **Prerequisite:** ENG 131

ENG 254 Children's Literature (3 CR/E,W)

Students survey the various genre of children's literature from a critical point of view. Course emphasizes developing student competency in oral reading and presentation of children's literature. **Prerequisite:** ENG 131

ENG 255 American Literature—19th Century (3 CR/E,W)

Students examine the development of a distinctive American literature and culture during the 19th century. Students read selections from many writers, with emphasis on major figures such as Hawthorne, Melville, Thoreau, Emerson, Poe, Dickinson, Whitman, Douglass and Jacobs. **Prerequisite:** ENG 131

ENG 256 American Literature—20th Century (3 CR/E,W)

Students examine the literature and culture of America from 1890 to the present, with emphasis on the development of organic and post-modern writing in narrative, poetic and critical modes. **Prerequisite:** ENG 131

ENG 257 World Literature I (3 CR)

Students compare major themes and writers from Africa, America, Asia and Europe. **Prerequisite:** ENG 131

ENG 261 Creative Writing I (3 CR/E,W)

Students experiment with writing poetry, fiction, drama and creative nonfiction for discussion and criticism. Students invent, collaborate and revise before submitting a portfolio of their work. Contemporary readings and visiting authors/videos enhance the class, but primary attention is given to students' creative writing process. **Prerequisite:** ENG 131

ENG 262 Creative Writing II (3 CR)

Students in this workshop write fiction, poetry and other forms and present writing for criticism and discussion. Contemporary readings emphasize participation of writers in a living act. Students write and workshop fiction, poetry and other genres. Contemporary readings emphasize writing invention and writing communities. **Prerequisite:** ENG 261

FINANCE (FIN)**FIN 100 Introduction to Wall Street (1 CR/E,W)**

Introduces the student to the world of investing and the institutions in the financial marketplace. Covers the organization and function of the stock market, brokerage firms, financial information on the Internet and other topics appropriate to an understanding of Wall Street.

FIN 101 Personal Finance (3 CR)

Introduces the student to the workings of our economy, personal financial planning and budgeting, building for the future, and making your money work.

FIN 102 Introduction to Wall Street II (1 CR)

Designed for the advanced novice or intermediate investor. The course will help develop the skills to analyze individual stocks and to construct a portfolio to meet financial goals. **Prerequisite:** FIN 100

FIN 210 Principles of Finance (3 CR)

Introduces the student to current asset management, financing growth, cost of capital, capital budgeting, and the workings of the money and capital markets. **Prerequisite:** ACC 232

FRENCH (FRN)**FRN 131 Elementary French I (4 CR/F)**

Introduces and develops the four skills of language learning: listening, speaking, reading and writing, with special emphasis on listening and speaking.

FRN 132 Elementary French II (4 CR/W)

Provides increased practice in the basic language skills; listening, speaking, reading and writing. **Prerequisite:** FRN 131

FRN 231 Intermediate French I (4 CR/F)

Improves the basic skills of language learning with emphasis on speaking and writing. Introduces readings from well-known French authors. **Prerequisite:** FRN 132

FRN 232 Intermediate French II (4 CR/W)

Continues to stress speaking practice and writing improvement, with readings and discussions in French. **Prerequisite:** FRN 231

FRESHMAN YEAR SEMINAR (FYS)**FYS 101 Be a Master Student (2 CR)**

Extended orientation to college designed to help students be more effective. Includes developing skills in writing, reading, critical thinking, decision-making, note taking and time management. Also assists students in identifying career goals, selecting a major and coping with test anxiety.

GEOLOGY (GEL)**GEL 160 Introduction to Geology (4 CR/F,W)**

The course covers minerals, rocks, earthquakes and volcanoes. It also covers the landscapes and behaviors of continents and oceans. Diagrams, photographs, topographic maps, Internet resources and hands-on exercises are utilized to support the concepts.

GEL 161 Historical Geology (4 CR)

Study of the history of the earth, the evolution of continents, oceans, and life before humans. Exercises include graphic problems in subsurface geology.

GENERAL EDUCATION (GEN)**GEN 022 Portfolio Development (1 CR)**

Students may receive credit towards a degree for certain life experiences. Course guides student in developing a portfolio to document their learning experience.

GEOGRAPHY (GEO)**GEO 131 Physical Geography (3 CR/F)**

The course begins with maps and grid systems. Map exercises are used all semester to enhance the textbook. Other topics include meteorology, vegetation, earth materials and a range of tectonic and landscape subjects.

GEO 132 World Regions (3 CR/W)

This course covers all regions of the world from a human perspective. Topics include resources, population, settlements, agriculture, manufacturing and transportation. There is special emphasis on Internet research in the classroom.

GERMAN (GER)**GER 131 Elementary German (4 CR/F)**

Introduces and develops the four skills of language learning: listening, speaking, reading and writing, with special emphasis on listening and speaking.

GER 132 Elementary German (4 CR/W)

Continuation of German 131 with increased practice in listening, reading, writing and speaking. **Prerequisite:** GER 131

GER 231 Intermediate German (4 CR/F)

Emphasis on selected readings of representative German contemporary writers. Practice in writing, speaking and listening. **Prerequisite:** GER 132

GER 232 Intermediate German (4 CR/W)

Continuation of German 231. Selected readings from contemporary writers and poets. Emphasis on speaking and writing improvement. **Prerequisite:** GER 231

HISTORY (HIS)**HIS 120 Ancient History (3 CR/F,W)**

Attempts to answer the question, "Where did it all begin?" with a leisurely survey of the politics, art and religion of the ancient world from history's beginning in Sumeria to the end of the ancient world when the Western Roman Empire faded out of sight in 476 A.D.

HIS 125 African—American History (3 CR)

Examines the role African-Americans who have historically played in the political, economical, and social construction of America.

HIS 131 Western Civilization to 1555 (4 CR/F,W,S)

Together with History 132, constitutes the basic history course, as well as an introduction to the humanities; the roots of Western culture and its development through the Reformation. Emphasis is placed upon the social, philosophical, scientific, artistic, and religious evolution, as well as the political setting.

HIS 132 Western Civilization 1555 to Present (4 CR/F,W,S)

Continuation of History 131, emphasizing the development of new political areas, economic and social theories, the evolution and expansion of modern states, and efforts to control international tensions.

HIS 231 Development of the U.S. Through the Civil War (3 CR/F,W,S)

The study of American national history beginning with the colonization to the Civil War. Themes include exploration and settlement, development of political theory, development of the West and its influence on the country, the growth of sectionalism and the Civil War.

HIS 232 Development of the U.S. From the Civil War (3 CR/E,W,S)

Continuation of HIS 231, from the period of the Civil War and Reconstruction. Emphasis on industrial, commercial, and agricultural expansion; intellectual currents; outstanding social changes; the nation's expanding role in the world affairs, and the Cold War.

HIS 235 Twentieth Century History (3 CR)

Examination of national and international developments in the past century focusing on such matters as colonialism, global warfare, and emerging nations, appearance and disappearance of communism. In addition, polarization of wealth and power, the revolution in technology, communication, businesses and industry, the conflict between the globalization movement and national tendencies will be examined.

HEALTH OCCUPATIONS (HOC)**HOC 130 Introduction to Health Occupations (3 CR/E,W,S)**

Students through classroom and laboratory facilitation will examine health care teams, interactions between and reactions of patients in normal and altered states, professionalism, OSHA standards, medical ethics, lifting, moving, emergency assessment and response.

HEALTH & PHYSICAL FITNESS (HPF)**HPF 110 Golf (1 CR)**

Learn beginning skills, rules and courtesies. This course emphasizes the swing, chipping, and putting. Students play nine holes of golf. Some equipment may be provided.

HPF 139 Spinning (1 CR)

A fast paced, invigorating workout to music utilizing specialized "spinning" stationary exercise bikes. Students are able to exercise at their own pace. The class is designed for a wide range of fitness levels.

HPF 156 Lifetime Fitness (2 CR)

For beginning exercisers and those reconditioning from injury, disability, or illness. Emphasis is placed on balance, coordination, flexibility, muscular strength and endurance.

HPF 160 Wellness (1 CR/E,W,S)

Learn the theoretical and practical relationship of lifestyle to productivity. Students examine attitudes and behaviors that enhance quality of life and maximize personal potential. Students have opportunities for self-evaluation.

HPF 161 Personalized Fitness (1 CR)

Receive a personalized fitness program, which requires 25 hours of exercise during convenient times. This self-paced course emphasizes both cardiovascular and muscular fitness.

HPF 168 Weight Training & Conditioning (2 CR/E,W)

Includes both didactic and practical application of the principles of comprehensive exercise. Learn about the multi-dimensional components of exercise including cardiovascular, flexibility and body composition. Special focus is placed on muscular strength and endurance within the context of a wellness perspective. Under the supervision of the instructor, students work out in a state of the art fitness facility that includes Eagle/Cybex equipment and multiple cardiovascular machines as well as a ten-lap/mile track.

HPF 169 Aerobic Rhythms (1 CR)

Students at various fitness levels participate in a choreographed exercise/dance and step class for the improvement of cardiovascular fitness, strength and flexibility.

HPF 182 Light Walking (1 CR)

Use walking to develop cardiovascular fitness and lose weight. This course emphasizes both muscular endurance and flexibility.

HPF 184 Race Walking (1 CR)

Learn how to apply proper race walking techniques as well as training techniques that enhance race walking performance. This course emphasizes physical activity.

HPF 185 Circuit Training (1 CR)

Participate in a challenging aerobic workout. The class emphasizes cardiovascular fitness utilizing a variety of work stations.

HPF 187 Interval Training (1 CR)

Participate in a vigorous running workout. Intervals ranging in distance from 200-800 meters form the basis of the workout.

HPF 221 Jazz Techniques (3 CR) (SAME AS DAN 121)

Beginner to intermediate level class exploring contemporary jazz and modern dance techniques. Includes an introduction to the fundamentals of choreography, exploration of the elements of dance, and history of dance.

HPF 268 Advanced Weight Training (2 CR/E,W)

Participate in fitness evaluations and individually prescribed programs designed to develop strength, aerobic endurance and flexibility. **Prerequisite:** HPF 168

HPF 277 Stress Management (2 CR)

Examine current information and techniques related to stress management. Students learn basic concepts and skills related to the holistic management of stress.

HPF 278 Stress Management for Parents (2 CR)

Parents learn how to manage stress effectively and improve their parenting skills. The course will be practical in nature.

HUMANITIES (HUM)**HUM 131 Cultural Connections (3 CR/E,W,S)**

This interdisciplinary course examines contemporary issues, their human and technological components, and their historical precedents through art, music, literature and philosophy.

INFORMATION TECHNOLOGY EDUCATION (ITE)**ITE 040 MS Works – Windows (1 CR)**

Students are introduced to the software package Microsoft Works and its modules for word processing, spreadsheets and database. **Typing ability necessary to be successful in this class.**

ITE 042 MS Frontpage Workshop (1 CR)

Learn the following FrontPage components: creating and managing a Web site, adding a Web page, editing and enhancing a Web page, and building a Web for user input. This is one component of the Microsoft Office User Specialist Expert certification test. **Typing ability necessary to be successful in this class.**

ITE 043 Microsoft Outlook Workshop (1 CR)

Learn to use Outlook's components to create and use the calendar feature to schedule meetings and multiple day events, establish a "contacts" database, keep journals, notes and use the task manager for prioritizing jobs. This is one component of the Microsoft Office User Specialist Expert certification test. **Typing ability necessary to be successful in this class.**

ITE 044 MS Office Integrated Workshop (1 CR)

Capstone workshop in which students with current skill in MS Office Pro learn how to integrate the four applications. **Typing ability necessary to be successful in this class.**

ITE 045 MS Word–Windows (1 CR)

Learn to process documents using Microsoft Word, including letters, memos and reports. **Typing ability necessary to be successful in this class.**

ITE 047 Operating System: UNIX (1 CR/W)

Overview of the UNIX operating system, commands, batch files and other basic topics. **Typing ability necessary to be successful in this class.**

ITE 050 Internet (1 CR/F)

Learn to navigate the Internet and use File Transfer Protocol (FTP), Archie, Wide Area Information Servers (WAIS) and Gopher services to retrieve information from a variety of sources. Sources include library catalogs, shareware and freeware archives, government documents, newspapers, magazines, books, newsgroups, medical and legal publications and scholarly documents.

ITE 064 WordPerfect: Windows I (1 CR/F)

Learn how to operate WordPerfect, including changing the default directory, menus, editing, saving, printing, cut and paste, search and replace, using and modifying the button bar, spell checker and thesaurus, formatting with the ruler and enhancing text.

ITE 065 IBM PC Workshop (1 CR)

Through hands-on practice, students are introduced to the personal computer. This course covers Windows operating system word processing, spreadsheet, data manager and graphs.

ITE 067 MS DOS Workshop (1 CR/F)

Learn the IBM (or equivalent) personal computer and its components. Course covers the operating systems background, Disk Operating System (DOS) commands, tree structure, EDLIN, Microsoft - DOS command files, and designing and writing simple batch files.

ITE 080 Excel: Windows I (1 CR)

Create business applications using the Excel spreadsheet within the Windows graphical user interface (GUI). This course covers basic commands, cell ranges, formulas, and mathematical, financial and statistical functions.

ITE 083 Windows Workshop (1 CR/F)

Introduction to Windows: the desktop, working in windows, customization, accessories, managing files and folders, multi-tasking, local and area networks and, when time permits, Internet interface and faxes. **Typing ability necessary to be successful in this class.**

ITE 091 MS Access Workshop (1 CR)

Learn how to create, query, maintain, present data as reports and forms, include graphs, tables and clip art in printouts, and use macros to create application systems for databases.

Prerequisite: ITE 101

ITE 092 MS PowerPoint Workshop (1 CR)

Learn how to create electronic presentations using a computer, overhead transparencies, and 35 millimeter slides using PowerPoint's word processing and outlining features.

Prerequisite: ITE 101

ITE 100 Introduction to Information Technology Education (1 CR)

Introduction to windows operating system and accessing information on the Internet. Mouse usage and basic file system operations will be covered.

ITE 101 Information Technology Education (3 CR/E,W,S)

Enhance computer knowledge. Course covers computer system concepts with an emphasis on several software applications. **Prerequisite:** ENG 110 and ITE 100. **Typing ability necessary to be successful in this class.**

ITE 108 Business Programming: Logic & Theory (3 CR/F)

Explore the development of the logic and theory for writing business programs that control the operation of a computer. Course covers the development of loops, at-end routines, control of branching through decision-making, table handling, program documentation and disk concepts.

Prerequisite: ITE 101

ITE 111 System Concepts & Design (3 CR/W)

Design a system, the related documentation, and required programs using an existing business as a model. Course covers flow charting a system, defining problems, pre-paring new forms. Students determine a desirable file structure.

Programming language familiarity necessary to be successful in this class.

ITE 113 Microsoft Office Professional Integration (3 CR)

Introduction and skill development in the four applications of Microsoft Office (Microsoft Word, Excel, Access, PowerPoint), plus the full integration of all four packages. **Typing ability necessary to be successful in this class.**

ITE 114 Advanced Microsoft Office (3 CR)

Learn the advanced features of Microsoft Office: creating documents with tables and charts, mail merge and newsletters in Word; generating templates and multiple worksheets, macros using Visual Basic, and manipulating databases in Excel; presenting data and using macros in Access; embedding visuals and customizing presentations in PowerPoint.

Prerequisite: ITE 113

ITE 117 Computer Programming: BASIC (3 CR/E,W)

Create business applications using structured QBASIC programming language. Course covers input/output, arithmetic operations, comparing, interactive programming, arrays, menus, subroutines, sorting, string processing, files, report generation and functions. **Prerequisite:** ITE 108 (may be taken concurrently)

ITE 127 MS Access Comprehensive (3 CR/E,W)

Planning, creating and displaying databases, sorting and report preparation, data entry screens, data validation and data

selection, and multiple file operations. **Typing ability necessary to be successful in this class.**

ITE 129 Office Administrative Systems (4 CR)

Develop and integrate administrative support skills in communication, information technologies, administrative procedures, problem solving. Topics: records management, information/communication systems, including electronic, space management and ergonomics, quality and productivity improvement techniques, meeting/travel planning, report preparation/presentation and employment skills.

Prerequisite: ITE 101

ITE 130 Microsoft Excel (3 CR)

Learn Excel components: charts, creating workbooks, using drawing tools, formatting and auditing worksheets, functions, Internet and intranet documents, modifying and printing workbooks, ranges, database queries, importing and exporting data, macros, working with multiple workbooks, working with existing and creating new templates, and advanced workgroup functions. This is one component of the Microsoft Office User Specialist Expert certification test. **Typing ability necessary to be successful in this class. Prerequisite:** MTH 110

ITE 134 Visual BASIC (3 CR/F)

Values and variables, instructions and grouping, designing for user interaction, graphic objects and controls, arithmetic functions, text, bit-mapped graphics, error trapping and debugging, and physical data. **Prerequisite:** ITE 108, for programming majors, may be taken concurrently.

ITE 135 Advanced Visual BASIC (3 CR)

Learn the advanced features of Visual Basic such as writing database programs using ADO, Active X documents and controls and extending VB by using the Windows API.

Prerequisites: ITE 134

ITE 150 Java Programming (4 CR/F)

First course in Java programming. Students will write Java programs in a PC laboratory. Control structures, methods, object-oriented programming, classes, applets and user interfaces are discussed. Lab included. **Prerequisite:** ITE 108, for programming majors, may be taken concurrently

ITE 151 Advanced Java Programming (3 CR/W)

Continuation of ITE 150, Java Programming. Students learn advanced topics such as creating a graphical user interface (GUI) using multiple threads and work with Java's networking capabilities, new I/O features, including character streams and object serialization, and new language features.

Prerequisite: ITE 150

ITE 160 HTML (2 CR)

Create web pages using HTML. Students will learn techniques and strategies to build and promote successful web pages. Features such as Columns, Frames, Image Maps and META tags will be covered in this course. **Prerequisite:** ITE 101

ITE 161 Web Animation (3 CR)

Design fully interactive sites using Macromedia Flash. Students will draw vector graphics, use key tools to produce animations, and create inactivity that drives dynamic web sites. Students will also produce multimedia presentations. **Prerequisites:** ART 201, ITE 101, ITE 160

ITE 162 Web Integration/Database (3 CR)

Students will experience different approaches for creating Web pages that interact with databases. This course will define how Web sites are being used to support electronic commerce applications. **Prerequisites:** ITE 101, ITE 127, ITE 163

ITE 163 Web Programming (3 CR)

Students will learn to design and maintain interactive and dynamic web applications within a server-based scripting environment. **Prerequisites:** ITE 101, ITE 160

ITE 171 Desktop Publishing (3 CR/E/W)

Create documents using word processing software and graphics design software and produce typeset quality copy. Students use microcomputers and laser printer. Course covers reproduction of half tones and electronic transmission to printing companies. **Prerequisite:** ITE 101

ITE 177 WordPerfect Windows (3 CR/E/W)

Learn to use the major functions of WordPerfect for Windows, including creating and editing documents, the WordPerfect button bar, file manager, document formatting, printing, merging, macros, columns, desktop publishing features and sort and select. **Typing ability necessary to be successful in this class.**

ITE 182 Programming In C++ (3 CR/F)

Learn how to do programming in the C++ language using language structure, commands, functions and object-oriented programming. **Prerequisite:** ITE 108, for programming majors, may be taken concurrently.

ITE 183 Advanced C++ (3 CR/W)

Hands-on programming course using the Visual C++ language. Object oriented programming concepts, input handling, the Microsoft Foundation Class, and using the Windows programming interface with Visual C++ tools are some of the topics discussed. **Prerequisite:** ITE 182

ITE 186 Microsoft Word (3 CR)

Produce, store and revise letters, memos, tables and reports using Microsoft Word. Headers, footers, mail merge, document assembly, grammar and spell checker, thesaurus, and outlining. **Typing ability necessary to be successful in this class.**

ITE 204 Computer Usage for Managerial Applications (3 CR/F)

Illustrates how the computer can be a valuable asset to the accountant. Hands-on experience with Excel spreadsheets, database, graphics and Peachtree software. **Prerequisite:** ACC 232

ITE 205 Introduction to Statistics (3 CR/E,W,S)
(SAME AS MTH 133, PSY 143)

Introduction to basic descriptive statistics, probability theorems, frequency distributions and functions, binomial and normal probability distributions and functions, probability density functions, hypothesis testing, statistical inference, Chi-square analysis, linear regression and correlation. **Prerequisite:** MTH 131

ITE 211 Typography & Layout (3 CR/F)

Learn principles of type identification, selection and use in the professional rendering of comprehensive layouts. Utilization of tools, materials and techniques of rendering emphasized.

ITE 220 Network+ (NET TECH) (3 CR)

Learn the basic concepts and prerequisites of network computing and get the background information you need to prepare for network administration certification. **Prerequisite:** ITE 101

ITE 221 Foundations of Novell Networking (3 CR/E/W)

Provides students with basic knowledge about implementing NetWare 6 and using its management tools. Students will focus on Installing and Using NetWare 6, Managing Novell eDirectory, Managing Printing, Managing Storage Space, Managing email and Instant Messaging Services, Implementing Internet Services and Managing Security. **Prerequisite:** ITE 101

ITE 222 Novell Network Management: NetWare 6 (3 CR/W)

Provide students with the knowledge and skill to perform the network management tasks that are most common yet critical to administrators of LANs and WANs. Emphasis will be placed on use of the network management utilities of NetWare 6, deployment of NetWare 6 features, and troubleshooting skills that a student in an entry-level network administration position must have to manage the daily network operations of an organization. **Prerequisite:** ITE 221

ITE 224 NDS Design & Implementation (575) (2 CR/W)

Learn a process that shows the sequence of skills and tasks necessary to effect a solid design and implementation schedule. Presents the logical progression of steps and deliverables developed and practiced by Novell Consulting Services personnel in real world engagements.

Prerequisite: ITE 221 and ITE 222

ITE 229 Integrating Windows NT (2 CR)

Streamline NT administration by using Novell Directory Services for NT and the NetWare Administrator. Hands-on experience with Novell Administrator for Windows NT.

Prerequisite: ITE 221

ITE 230 NetWare 4.11-5.0 Upgrade (2 CR)

Focuses on introducing, explaining, and comparing significant changes, updates and new features found in NetWare 5. **Prerequisite:** ITE 221 and ITE 222

ITE 231 LINUX Installation & Configuration (3 CR)

An overview of the Unix Operating System. Installing LINUX, configuring hardware for your server and using common applications. **Prerequisite:** ITE 101

ITE 233 A+ Hardware Component (3 CR)

Basic computer theory, logic, technological evolution. Fundamental PC components, I/O peripheral identification, implementation and functionality, Printer fundamentals/types/diagnostics/trouble shooting/basic repair.

Corequisite: ITE 101

ITE 235 A+ O/S Component (3 CR)

Familiarization with basic DOS functionality and manipulation for diagnostics, troubleshooting and repair with WIN O/S. Installation, configuration, troubleshooting, diagnostics, upgrade familiarity with necessary MS products for A+ certification.

Corequisite: ITE 233

ITE 237 A+ Certification Exam Preparation (1 CR)

Focus on A+ core exam module component essentials/fundamentals to include real time test environment and materials. **Prerequisite:** ITE 235

ITE 239 Network+ Networking Fundamental Component (3 CR)

Familiarization with basic Networking media components, configuration, functionality and manipulation for installation, diagnostics, troubleshooting, integration, upgrade and repair. Familiarization with MS, Novell, Linux O/S platform configuration, functionality and manipulation for installation, diagnostics, troubleshooting, integration and upgrade in both Peer to Peer and Server Centric environments.

Corequisite: ITE 101

ITE 241 Network+ Networking Protocols (3 CR)

Historical evolution of networking, Introduction to the DOD and OSI models including all related protocols for both peer-to-peer and server-centric LAN/WAN environments.

Prerequisite: ITE 101

ITE 243 Network+ Certification Exam Preparation (1 CR)

Focus on Network+ core exam module component essentials/fundamentals to include real time test environment and materials. **Prerequisite:** ITE 241

ITE 246 Advanced Novell Network Management (3 CR)

Advanced Novell Network Management (Course 3005) will provide students with advanced management and troubleshooting knowledge pertaining to a NetWare 6 network and its components using the web services, tools and utilities that ship with NetWare 6. **Prerequisite:** ITE 222

ITE 254 Design MS SQL Database (3 CR)

Provides the technical skills required to design and implement database solution by using Microsoft SQL Server.

Prerequisite: ITE 255

ITE 255 Admin MS SQL Server (3 CR)

Provides the knowledge and skills required to install, configure, administer and trouble shoot Microsoft SQL Server.

Prerequisite: ITE 262

ITE 261 Windows 2000 Networking 1 (3 CR)

Introduces students to Microsoft Windows 2000 and to the networking technologies it supports. Helps prepare the student for part of Exams 70-210 and 70-215. **Prerequisite:** ITE 101

ITE 262 Windows 2000 Networking 2 (4 CR)

Students will install, configure, administer and troubleshoot Microsoft Windows 2000 Professional and Windows 2000 Server. Helps the student prepare for the MCSE Exams 70-210 and 70-215. **Prerequisite:** ITE 261.

ITE 263 Windows 2000 Networking 3 (3 CR)

Students will install, configure, manage and troubleshoot a network infrastructure that uses the Microsoft Windows 2000 Server products. Helps prepare students for the MCSE Exam 70-216. **Prerequisite:** ITE 262.

ITE 264 Windows 2000 Networking 4 (3 CR)

Students will install, configure, administer and troubleshoot Microsoft Windows 2000 Active Directory services and Group Policy. Helps prepare students for the MCSE Exam 70-217.

Prerequisite: ITE 263.

ITE 265 Design MS WIN2K Directory SVC (3 CR)

Students will plan, configure, implement and troubleshoot Microsoft Windows 2000 directory services in an enterprise

environment. Helps prepare students for Exam 70-219.

Prerequisite: ITE 264.

ITE 266 Design MS WIN2K Network SVC (3 CR)

Students will create a networking services infrastructure design, using various technologies such as DHCP, DNS, NAT, Proxy Server and others. Helps prepare the student for MCSE Exam 70-221. **Prerequisite:** ITE 264.

ITE 267 Design a Secure MS WIN2K Network (3 CR)

Students will design a security framework for small, medium, and enterprise networks using Microsoft Windows 2000 technologies. Helps prepare the student for Exam 70-220. **Prerequisite:** ITE 264.

ITE 270 Graphic Creativity (1 CR/S)

Create successful client presentations through illustration techniques, artwork resources, organizing priorities and managing deadlines. Learn brainstorming and mental warm up techniques while finding your own rhythm and timing.

ITE 271 Desktop Publishing II (3 CR/W)

Advanced desktop publishing techniques. Emphasis on integration of software packages and complex page layout techniques. The primary software package is QuarkXPress. **Prerequisite:** ITE 171 and ITE 211

ITE 272 Graphic Illustration (3 CR/F)

Introduces students to techniques and materials used by professional designers and illustrators. Projects include three-dimensional artwork, exploded and assembled drawings, and art to enhance instructional materials. Computer-assisted methods introduced. **Prerequisite:** ART 101 or ART 103 or ART 152

ITE 273 Graphic Imaging (3 CR/W)

Learn the intricacies of scanning and editing images for producing practical and expressive graphic images on a computer using Adobe PhotoShop software. *Recommend that graphic design majors should take ITE 211 first.*

ITE 274 Graphic Technology Applications (3 CR/W)

Learn how to integrate several software packages producing final products that are print shop ready. **Prerequisite:** ITE 271, ITE 272* and ITE 273* *ITE 271 and 273 may be taken concurrently

ITE 275 Web Page Design (3 CR/S)

Develop efficient Web pages and sites for the Internet utilizing multiple software applications on the Mac. Emphasis on page layout and design. **Prerequisite:** ITE 273

ITE 276 Practicum in Printing I (3 CR)

Students receive hands-on introductory to how screen and offset printing works. This class will be project-oriented.

Prerequisite: ITE 101 and ITE 171, can be prior to or concurrent.

ITE 277 Practicum in Printing II (3 CR)

Students will receive extensive hands-on experience in four-color/process printing. **Prerequisite:** ITE 273 and ITE 276, can be prior to or concurrent

LICENSED PRACTICAL NURSING (LPN)

LPN 131 Foundations of Nursing (6 CR/W)

Introduction to the nursing process and their role as caregiver. Maslow's hierarchy of needs is explored, along with nursing skills that meet basic physiologic and safety needs. Laboratory and clinical experience provide the student an opportunity to demonstrate initial application of the roles of caregivers and member of the discipline in a highly structured, supervised setting.

LPN 132 Medications (3 CR/F,W)

Introduction to the purpose, use, and action of medication in meeting basic human needs. Safety and legal implications discussed. Nursing process serves as the framework for understanding client needs during medication therapy. **Prerequisite:** BIO 155, LPN 141 or MOA 141 and MTH 110 or equivalent.

LPN 141 Body Structure & Function (4 CR/F,W,S)

(SAME AS MOA 141)

Introduction to body structure, function, and disease processes to provide a foundation for understanding normal and abnormal body functions.

LPN 145 Normal/Therapeutic Nutrition (3 CR/F,W,S)

(SAME AS MOA 145, NUR 207)

Basic nutritional concepts presented with emphasis on application to patient care. Selected nutritional disorders and fundamentals of diet therapy are included.

LPN 180 Nursing Care of Adults—IA (6 CR/F)

Use the nursing process to implement the caregiver role with adult clients experiencing basic physiologic needs. Understanding of how disease states of various body systems (respiratory, gastrointestinal, endocrine and immune) alter the client's needs and their ability to meet their needs explored. Clinical experience provides the student the opportunity to demonstrate the roles of caregiver and member of the discipline. **Prerequisite:** LPN 131 and MOA 110

LPN 181 Nursing Care of Adults—IB (6 CR/F)

Use the nursing process to implement the caregiver role with adult clients experiencing basic physiologic needs. Understanding of how disease states of various body systems (oncology, cardiovascular, reproductive and musculoskeletal) alter the client's needs and their ability to meet these needs explored. Clinical experience provides the opportunity to demonstrate the roles of caregiver and member of the discipline. **Prerequisite:** LPN 131 and MOA 110

LPN 182 Role of the Practical Nurse (2 CR/W)

Review the ethical/legal responsibilities of the LPN along with the scope of practice of the LPN. Issues related to types of health care organizations, LPN organizations, continuing education, and licensure covered. Students learn how to prepare for and take the NCLEX-PN examination. Information on home management, resume preparation and job seeking skills included. **Prerequisite:** LPN 180 and LPN 181

LPN 183 Nursing Care of Adults—II (6 CR/W)

Use the nursing process to implement the caregiver role with adult clients experiencing sensory, neurology, renal and mental health conditions. Maslow's hierarchy of needs is utilized as the framework for understanding client responses to disease states. Emphasis placed on the special needs of elderly clients. Clinical experiences are designed to reinforce theory and demonstrate the roles of caregiver and member of the discipline.

Prerequisite: LPN 180 and LPN 181

LPN 184 Maternal/Child Concepts (6 CR/W)

Extend the use of the nursing process to the childbearing and childrearing clients. Maslow's hierarchy of needs is utilized as a framework to care for the client who has a well-defined health care problem in a structured setting. Includes a clinical setting.

Prerequisite: LPN 180 and LPN 181

MEDICAL ASSISTANT (MOA)**MOA 111 Medical Assistant Techniques I (3 CR/W)**

Through class and laboratory practice learn clinical practices, procedures and routines performed by the medical office assistant. The assistant's role in the preparation for examination and treatment of the patient, basic techniques in vital signs, medical asepsis, office emergencies and assisting in office surgery emphasized. **Prerequisite:** BIO 155 or LPN 141 or MOA141

MOA 112 Insurance, Reports, Law & Ethics (3 CR/E/W)

Presents principles and concepts of medical law and bioethics, as well as an overview of health care financing through third party payers. Topics include: medical practice arts, the patient-health worker relationship, medical liability law and suit prevention, private insurance and government programs, and bioethical issues in medicine.

MOA 115 Health Science Smart Start (2 CR)

Survival strategies for health occupation majors. Skills include reading strategies, note taking, time management and test taking.

MOA 120 Medical Terminology (3 CR/E/W,S)

(FORMERLY MOA 110)

Programmed learning word building system approach is used to teach basic medical terms including origins, prefixes, suffixes, word roots, plurals, and grammar. Pronunciation, spelling, definitions, and usage of medical terms stressed.

MOA 141 Body Structure & Function (4 CR/E/W,S)

(SAME AS LPN 141)

Introduction to the body structure and function providing a foundation for understanding normal and abnormal body functions and disease processes.

MOA 145 Normal/Therapeutic Nutrition (3 CR/E/W,S)

(SAME AS LPN 145, NUR 207)

Basic nutritional concepts presented with emphasis on application to patient care. Selected nutritional disorders and fundamentals of diet therapy included.

MOA 204 Seminar & Externship (5 CR/W)

Requires 225 hours minimum placement in a licensed health practitioner's office or clinic and a two-hour weekly seminar. This experience includes practice of basic medical assisting skills and application of knowledge in administrative and clinical areas. Seminar offers discussions of experience on externship, professionalism, continuing education, job search, and review of skills for the CMA exam.

Prerequisite: SEC 241, MOA 241, MOA 211

MOA 207 Health Unit Clerk (3 CR) (REPLACES MOA 206)

Practical classroom instruction in theories and skills needed to perform Health Unit Clerk duties in a hospital or extended care facility. Subjects include: communication devices and their use, transcribing physician orders onto Kardex or Patient Profiles, completing medication administration records, charting rules, medical record maintenance, confidentiality, computer orders, human relations, unit organization and time management, policies and procedures for unit clerks, medical terminology review, medical abbreviation usage, physician orders by specialty and ordering supplies for the unit.

Prerequisites: MOA 110 and ITE 101

MOA 208 Health Unit Clerk Internship (2 CR)

(REPLACES MOA 206)

Practical clinical experience as a Health Unit Clerk in a hospital or extended care facility. 150 hours of non-paid time will include applying skills and knowledge learned in the Unit Clerk classroom. Students placed and monitored by their instructor following a personal consultation.

Prerequisite: Department Permission

MOA 211 Medical Assistant Techniques II (4 CR/F)

Through class and laboratory, clinical skills and knowledge are practiced in the following areas: EKG, office emergencies, administration of medications, venipuncture, pediatrics, gynecology, obstetrics, gerontology, urology and community resources. Lab included. **Prerequisite:** MOA 141 or LPN 141 or BIO 155 and MOA 120

MOA 241 Medical Records (3 CR/F,W)

Using lecture and practice, learn charting principles and practices, diagnostic and procedure coding, insurance billing, health histories, organization of record systems, technology and legalities. **Prerequisite:** MOA 120 and MOA 112

MOA 242 Advanced Medical Billing (3 CR/W)

Designed to teach advanced skills in medical insurance billing. Correct preparation of major carrier claims including use of modifiers and rebilling skills emphasized. **Prerequisite:** MOA 241

MOA 245 Billing/Transcript Externship (2 CR/W)

125-hour externship experience with an eight-hour seminar designed to practice skills in either a medical billing or transcription facility.

MATHEMATICS (MTH)**MTH 090 Math Skills (2 CR)**

This course will provide an entry-level math course for students whose skills are not sufficient for them to take MTH 110, Prealgebra. It will be a self-paced course, with individualized instruction through the use of computer software. This will allow each student to begin working at whatever level he/she needs, and to proceed at his/her own pace. The goal is for the student to develop the necessary skills in order to take Pre-algebra.

MTH 110 PreAlgebra (3 CR/F,W,S)

Review of arithmetic of positive and negative integers, fractions, decimals, percentages. Covers measurement and geometric calculations. Basic algebraic concepts include simplifying expressions and solving simple equations.

MTH 112 Business Math (3 CR/F,W,S)

Review basic math and elementary formula skills and their application to the topics characteristic of the business area such as simple interest and bank discount, installment buying, compound interest, annuities as well as simple statistics, stocks and bonds, and insurance. **Prerequisite:** MTH 110

MTH 120 Beginning Algebra (4 CR/F,W,S)

Study variables and variable expressions, integers, laws of exponents, equations (linear, quadratic, rational, radical and absolute value), linear inequalities, linear systems, coordinate graphing and problem solving. **Prerequisite:** MTH 110

MTH 131 Intermediate Algebra (4 CR/F,W,S)

Emphasizes simplifying expressions, solving equations, and graphing functions, including linear, quadric, polynomial, rational, radical, exponential and logarithmic. Problem solving and mathematical modeling are integrated throughout. Appropriate technology to include a graphing calculator. **Prerequisite:** MTH 120

MTH 132 Plane Trigonometry (2 CR)

Learn definitions of trigonometric functions, solution of right and oblique triangles, radian measure, graphs of functions, equations, and identities. Graphing calculator required. **Prerequisite:** MTH 131

MTH 133 Introduction to Probability & Statistics (3 CR/F,W,S) (SAME AS ITE 205, PSY 143)

Introduction to basic descriptive statistics, probability theorems, frequency distributions and functions, binomial and normal probability distributions and functions, probability density functions, hypothesis testing, statistical inference, Chi-square analysis, linear regression and correlation. **Prerequisite:** MTH 131

MTH 140 Pre-Calculus (5 CR/F,W,S)

Major emphasis is on the concept of functions. Study polynomial, rational, exponential, logarithmic, trigonometric and inverse trigonometric functions, their properties, graphs, and related equations and applications. Additional topics include systems of equations, matrices, conic sections, sequences and series, and probability. A graphing calculator is required and used extensively. **Prerequisite:** MTH 131

MTH 147 Discrete Mathematics (3 CR)

Discrete mathematics covering sets, relations, recursion, mathematical induction, logic, proofs, counting methods, graphs, and Boolean algebra. **Prerequisite:** MTH 140

MTH 151 Calculus I (4 CR/F,W,S)

First calculus course for business, mathematics, engineering and science students explores introductory plane analytic geometry, the derivative, the integral, and their applications for algebraic, trigonometric, exponential and logarithmic functions. Graphing calculator required. **Prerequisite:** MTH 140

MTH 154 Calculus II (5 CR/E,W,S)

Explore the following topics: methods and applications of the derivative and integral for inverse trigonometric and hyperbolic functions, indeterminate forms, series, polar and parametric representation of functions, matrices, determinants, solution of systems of equations, and vectors. Graphing calculator required.

Prerequisite: MTH 151

MTH 210 Foundations of Mathematics (3 CR)

(SAME AS MTH 111)

Provides background material for students preparing to teach at the elementary level. Emphasizes the structure and properties of the number system. Covers concepts, models and algorithms for whole numbers, integers, fractions, decimals, and percents. Some additional hours of on-site field work required. **Prerequisite:** MTH 131

MTH 211 Foundations of Mathematics II (3 CR)

The course will provide the second semester of math content for elementary education majors. It is a continuation course for MTH 210, Foundations of Mathematics I.

Prerequisites: MTH 210

MTH 251 Calculus III (4 CR/E,W)

Solid analytical geometry is integrated throughout this course covering the calculus of vector valued functions, multivariable functions, and vector fields with applications. Also covers linear algebra topic of vector spaces. Graphing calculator required.

Prerequisite: MTH 154

MTH 254 Differential Equations (4 CR/W)

Explore solutions of first order differential equations, linear differential equations with constant coefficients, variation of parameters, series solutions, Laplace transforms, eigenvectors and eigenvalues and application to solution of systems of linear first order equations. Graphing calculator required.

Prerequisite: MTH 154

MUSIC (MUS)**MUS 103 Keyboard I (2 CR/E,W)**

Sequence of courses that teach music reading and performance on piano. The course stresses functional keyboard skills.

MUS 104 Keyboard II (2 CR/E,W)

Sequence of courses that teach music reading and performance on piano. The course stresses functional keyboard skills. **Prerequisite:** MUS 103

MUS 105 Keyboard III (2 CR/E,W)

Sequence of courses that teach music reading and performance on piano. The course stresses functional keyboard skills. **Prerequisite:** MUS 104

MUS 106 Keyboard IV (2 CR/E,W)

Sequence of courses that teach music reading and performance on piano. The course stresses functional keyboard skills. **Prerequisite:** MUS 105

MUS 107 Beginning Guitar (2 CR)

Beginner class instruction in playing folk and classical guitar. Each student provides own guitar.

MUS 108 Intermediate Guitar I (2 CR)

Continuation of MUS 107. **Prerequisite:** MUS 107

MUS 118 Percussion Methods (2 CR)

Performance and teaching techniques of percussion instruments.

MUS 120 Woodwind Methods (2 CR)

Performance and teaching techniques of woodwind instruments.

MUS 121 Brass Methods (2 CR)

Performance and teaching techniques of brass instruments.

MUS 123 Voice Class (2 CR/E,W)

Designed to aid in vocal techniques and develop stage presence. Topics include breathing techniques, vocal evaluation, developing a personal style and working with a microphone. Repeatable 2 times

MUS 124 Advanced Voice Class (2 CR/E,W)

Sequence of Voice Class, MUS 123. Class continues the development of vocal technique, with emphasis on performance. **Prerequisite:** MUS 123 Repeatable 2 times

MUS 126 Jackson Community Concert Choir (1 CR)

Study and performance of choral music. Admission with department permission required.

MUS 129 Community Concert Band (1 CR/E,W)

Study and performance of concert band music performances. Admission with department permission required. Repeatable 4 times

MUS 130 Survey of Non-Western Music (3 CR)

Discovering the music of non-western cultures through lecture and directed listening.

MUS 131 Understanding Music (3 CR)

Lecture and directed listening on the elements, forms and historic chronology of Western music.

MUS 132 History of Popular Music in America, 1840-Present (3 CR)

Students explore the development of popular music in America and focus on the musical, social, and economic influences of commercial music in an historical context.

MUS 133 Music Education (3 CR)

Elementary education student is taught the fundamentals of music and then given practical experience in teaching, creating, and accompanying songs and how to enhance an elementary classroom with music.

MUS 140 Small Instrumental Groups I (1 CR)

Small ensembles of instrumentalists performing selected materials. The size and type of these ensembles determined by the available instrumentation. Students interested in this course must register with the Music Department.

MUS 141 Small Instrumental Groups II (1 CR)

Small ensembles of instrumentalists performing selected materials. The size and type of these ensembles determined by the available instrumentation. Students interested in this course must register with the Music Department.

MUS 142 Small Instrumental Groups III (1 CR)

Small ensembles of instrumentalists performing selected materials. The size and type of these ensembles determined by the available instrumentation. Students interested in this course must register with the Music Department.

MUS 143 Small Instrumental Groups IV (1 CR)

Small ensembles of instrumentalists performing selected materials. The size and type of these ensembles determined by the available instrumentation. Students interested in this course must register with the Music Department.

MUS 151 Music Theory I (4 CR)

Study of scales, key signatures, chord structure, intervals, chord progression, and non-harmonic tones. This course includes sight singing, keyboard harmony and ear training.

MUS 152 Music Theory II (4 CR)

Continued study of scales, key signatures, chord structure, intervals, chord progression, and non-harmonic tones. This course includes sight singing, keyboard harmony and ear training. **Prerequisite:** MUS 151

MUS 161 Audio Production 3 CR

Recording technique, the studio, multi-track recording, mixing, rhythm tracks, lead and instrumental overdubs, guide tracks, mix down, editing, and sound reinforcement.

MUS 167 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

MUS 168 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

Prerequisite: MUS 167 or MUS 177

MUS 177 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

MUS 178 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

Prerequisite: MUS 167 or MUS 177

MUS 181 Orchestral Music (2 CR)

Study and performance of symphonic music. Students must register with the Music Department. Audition and performance required.

MUS 190 Broadway Revue (1 CR/EW)

Study and perform Broadway, jazz and popular vocal literature. The performance aspect includes singing, stage presence, staging and movement. This ensemble rehearses a total of 3-4 hours per week. Audition is required. Repeatable 4 times

MUS 251 Advanced Music Theory I (4 CR)

Study of modulation seventh chords, altered chords, and 20th century techniques. This course includes keyboard harmony, sight singing and ear training.

Prerequisite: MUS 152 and MUS 151

MUS 252 Advanced Music Theory II (4 CR)

Study of modulation seventh chords, altered chords, and 20th century techniques. This course includes keyboard harmony, sight singing and ear training. **Prerequisite:** MUS 251

MUS 267 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

Prerequisite: MUS 168 or MUS 178

MUS 268 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

Prerequisite: MUS 267 or MUS 277

MUS 277 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

Prerequisite: MUS 168 or MUS 178

MUS 278 Applied Music (1 CR)

Private study on all instruments is open to all students. This is a requirement for music majors pursuing a bachelor's degree. All students must register with Music Department at the beginning of each semester. Recital and jury required.

Prerequisite: MUS 267 or MUS 277

NATURAL SCIENCE (NSC)**NSC 131 Contemporary Science (4 CR/E,W,S)**

An interdisciplinary course that introduces the nature of science as a process. Particular topics from biology, chemistry, physics, geology and astronomy covered with an emphasis on critical thinking and evaluating evidence to examine competing theories. The interrelationships and interaction of the sciences are stressed, as is the relationship of science and technology. This course is ideal as a first science course for students whose science background is minimal, who are anxious about science, or who have not had a science course for several years.

NURSING (NUR)**NUR 101 Fundamentals of Nursing (6 CR/E,W)**

Become familiar with the nursing process as it relates to universal self-care requisites. Assistance is provided in acquiring and demonstrating competency in basic nursing skills. Emphasis is placed upon assessing self-care agency and therapeutic self-care demand. That information is then used to devise appropriate nursing diagnosis, to plan, implement, and evaluate a plan of care for clients requiring nursing actions to meet their universal self-care demands. Laboratory and clinical experiences are included.

NUR 103 Introduction to Professional Nursing (3 CR/F)

Provides a foundation in the scientific and social dimension of nursing as a discipline and a health profession. Examine the historical development of nursing and its impact on contemporary nursing. Cultural variables and personal values examined by the student. The societal context of nursing is reviewed, providing the student with an appreciation of the health care system, with particular emphasis on legal and ethical frameworks.

NUR 120 Transition Bridge (3 CR/F)

Become familiar with the nursing process as it relates to self-care theory. Exploration of the legal and professional scope of practice discussed. Laboratory experiences will be included.

NUR 121 Pharmacology (3 CR/E,W,S)

Students are introduced to basic knowledge and skills needed to safely administer medications to clients with self-care needs. This course includes medication action, use, side effects, nursing implications and client education for major drug groups.

Prerequisite: BIO 155 or LPN 141 or MOA 141 and MTH 110 or equivalent.

NUR 170 Self-Care (1 CR/E,W)

Students will be introduced to Orem's theory of self-care. The theory of self-care deficits and theory of nursing systems discussed as they relate to the clients, as well as to the students. Students use a variety of methodologies, which will then be a part of their repertoire of self-care knowledge and skills.

NUR 171 Supportive Educative Nursing (4 CR/E,W)

Apply the nursing process to promote self-care for adults with common, well-defined needs. This course explains problems of the client needing supportive-educative care. Clinical experience designed to reinforce the theory included.

Prerequisite: NUR 121, NUR 101 and NUR 170

NUR 172 Pathophysiology (4 CR/E,W)

Study of human diseases and the mechanisms that govern them. Addresses etiology, clinical presentation and appropriate treatment of disease processes and nursing action.

Prerequisite: BIO 155 and NUR 101 or NUR 120 as a co-requisite.

NUR 173 Family I (4 CR/E,W)

Focus on family centered care utilizing the maternal child health standards. This course utilizes the self-care model and the nursing process as the framework to assist the student in collaborating with the client/family or other health care members in meeting the supportive-educative needs of the client/family in childrearing and childbearing experiences.

Prerequisite: PSY 252, NUR 101, NUR 121 and NUR 170

NUR 207 Normal/Therapeutic Nutrition (3 CR/E,W,S)
(SAME AS MOA 145, LPN 145)

Basic nutritional concepts presented with emphasis on application to patient care. Selected nutritional disorders and fundamentals of diet therapy are included.

NUR 242 Physical Assessment (1 CR/E,W)

Designed for nurses to learn physical assessment skills including inspection, palpation, percussion and auscultation. Included are interviewing techniques and assessment of cardiac, musculoskeletal, GI, neurological and respiratory systems.

Corequisite: NUR 101

NUR 245 Health Assessment (3 CR/F)

Provides the beginning nursing student with necessary skills and knowledge required to perform a health and physical assessment, while assessing the health status of clients ranging from infancy through old age. Focuses on assessment of the client in all fields (social, psychosocial, biological, affective, cognitive, physical, developmental, race/ethnicity, cultural and spiritual). Students will distinguish normal from abnormal findings in clients across the lifespan. Laboratory, lecture, audio visual and physical examination will be used to provide the student with tools to conduct appropriate and skillful health assessments, apply appropriate decision-making skills and document on future clients, in their unique clinical settings.

Prerequisite: BIO 155, admission to the U of M-BSN transfer program or ADN program.

NUR 270 Partially Compensatory (4 CR/E,W)

Apply the nursing process to promote self-care for clients with chronic health needs. Explores problems of the "partially compensatory" elderly client. Clinical experience is provided in the hospital and community. **Prerequisite:** NUR 171, NUR 172, and NUR 173 or NUR 120

NUR 271 Family II (4 CR/E,W)

Further develop the self-care model by utilizing the nursing process to assist clients/families with complex self-care demands and deficits. Explores the relationship of dependent care agents and nursing systems. Includes clinical experiences with children, childbearing and childrearing clients, designed to reinforce theory. **Prerequisite:** NUR 171, NUR 172 and NUR 173 or NUR 120

NUR 272 Mental Health (5 CR/E,W)

Explore learning experiences that promote satisfactory assimilation of fundamental mental health and mental illness concepts in their delivery of the nursing process with clients and family systems. A clinical component is provided for students to develop mental health nursing care skills.

Prerequisite: NUR 171, NUR 172 and NUR 173 or NUR 120

NUR 273 Wholly Compensatory (5 CR/E,W)

Utilize the nursing process to provide wholly compensatory care for clients. Caring for clients requiring complex nursing interventions and medical regimens. Includes clinical in acute care settings. **Prerequisite:** NUR 270, NUR 271, NUR 272

NUR 274 Leadership (4 CR/E,W)

Focus on the role changes from student to graduate and examine the nurse agent's role in a leadership position, as well as responsibility, accountability and liability in a health care setting. Current health care trends which impact the client's self-care examined. Stresses continued skill development and includes clinical experience. **Prerequisite:** NUR 273

PHILOSOPHY (PHL)**PHL 231 Introduction to Philosophy (3 CR/E,W,S)**

In this course, you will be exposed to some of the major figures in Western philosophy, and through them, some of the most important philosophical questions. You will discuss questions such as: Is ethics all a matter of opinion? What is the good life for human beings? When is the state justified in using coercive power? What is the nature of knowledge, and how do we get knowledge? What is the nature of reality? Can we prove the existence of God?

PHL 232 Logic (3 CR/W)

This course gives you a background in both informal and formal logic. Informal logic, which is derived from everyday types of discussions and arguments, is dealt with first. Topics included are the nature of arguments in general, statistical arguments, and fallacies (bad arguments). Formal logic involves dealing with arguments in an artificial language and is the ancestor of digital computers and every computer programming language. You will learn how to manipulate the artificial language and construct relatively simple proofs.

PHYSICS (PHY)**PHY 131 Conceptual Physics (4 CR/E, W)**

Become familiar with basic concepts used in physics to describe and explain various physical phenomena. The course covers the following topics: kinematics (the description of motion); mechanics (the study of force, momentum, and energy); the behavior of solids, liquids and gases; temperature and heat; waves and sound; electricity and magnetism; and optics. The course is designed to familiarize the student with the basics of physics using a minimum of mathematics.

PHY 151 Astronomy (4 CR)

A descriptive course, primarily for non-science majors, covering the general field of astronomy. Topics include telescopes, motions of the sky, planetology, stellar evolution, and cosmology. **Prerequisite:** MTH 120 or higher

PHY 161 Industrial Physics (2 CR)

Physical principles of mechanics and heat and their applications to machines, liquids, gases, structural materials, laws of moving bodies, heat control and heat engines.

PHY 231 College Physics I (4 CR/F)

Pre-professional and engineering technology students explore kinematics, mechanics, dynamics, thermodynamics, acoustics, and general wave motion.

Prerequisite: MTH 132 or higher

PHY 232 College Physics II (4 CR/W)

Students cover topics in electricity, magnetism, and modern physics. A continuation of PHY 231. **Prerequisite:** PHY 231

PHY 251 Modern University Physics I (5 CR/F)

Students cover classical mechanics, thermodynamics, and wave motion. This course should be elected by all science and engineering students. **Prerequisite:** MTH 151 or higher

PHY 252 Modern University Physics II (5 CR/W)

Students cover topics in classical electricity and magnetism, optics, special relativity, and modern physics. A continuation of PHY 251. **Prerequisite:** PHY 251

POLITICAL SCIENCE (PLS)**PLS 141 American National Government (3 CR/E,W,S)**

Develops a systematic framework for the interpretation of political activity in the U.S. Numerous models explain the theoretical foundations of government and the decision-making process.

PLS 262 International Relations (3 CR)

Survey contemporary world affairs and examine the nation-state system, the struggle for power, and factors creating harmony and hostility among states.

PSYCHOLOGY (PSY)**PSY 101 Career Planning (3 CR)**

Study of personal characteristics, create occupational prospects and explore job possibilities, make career decisions, and implement occupational choices through job search techniques.

PSY 102 Career Decision (2 CR)

A systematic process of making occupational choices. Three fundamental parts: self-study, career exploration, and selecting and ranking potential occupations. (Course meets for the first 10 weeks of the semester.)

PSY 103 Job Search Techniques (1 CR)

Developing sources of job leads, writing resumes and cover letters, completing job applications, conducting interviews, and researching work organizations and job survival methods. (Meets for the last five weeks of the semester.)

PSY 140 Introduction to Psychology (4 CR/E,W,S)

Overview of the field of psychology, including learning, development, emotion, motivation, personality, abnormal behavior, and psychotherapy.

PSY 143 Introduction to Probability & Statistics (3 CR/E,W,S) (SAME AS MTH 133, ITE 205)

Introduction to basic descriptive statistics, probability theorems, frequency distributions and functions, binomial and normal probability distributions and functions, probability density functions, hypothesis testing, statistical inference, Chi-square analysis, linear regression and correlation.

Prerequisite: MTH 131

PSY 152 Social Psychology (3 CR/W) (SAME AS SOC 152)

Theoretical synthesis of social influences, including attitude formation, social and cognitive development, aggression, prosocial behavior, prejudice, conformity, culture and gender differences, influences, group processes and inter personal attraction. **Prerequisite:** PSY 140 or SOC 231

PSY 161 Introduction to Counseling (3 CR)

Learn basic counseling microskills against a backdrop of comparative theories and systems of counseling. Ethical, legal, and practical issues included. **Prerequisite:** PSY 140

PSY 222 Applied Behavior Analysis (3 CR)

Methods and techniques for changing behaviors based on learning principles. Includes modeling, simulation, role playing, operant, aversion, fear reduction and self-management methods. **Prerequisite:** PSY 140

PSY 245 Infancy and Childhood (3 CR)

Physical, mental, emotional, and social development of the human individual from conception through childhood. Genetic, prenatal, and postnatal influences on development are examined. Cognitive and social learning theories are used to integrate research findings. **Prerequisite:** PSY 140

PSY 251 Abnormal Psychology (3 CR/EW)

Survey of those behaviors that do not fit the norm of society, including causal factors, specific disorders & treatment methods. **Prerequisite:** PSY 140

PSY 252 Developmental Psychology (3 CR/EW)

Principles and theories of human development from conception through adulthood, with applications to foster optimal development. Cognitive, behavioral and social learning theories are used to integrate research findings.

Prerequisite: PSY 140 or NUR 101

PSY 256 Educational Psychology (3 CR)

Application of psychological theories to the teaching-learning process. Principles of cognitive and social development discussed along with discipline, motivation, and assessment and evaluation.

PSY 290 Human Sexuality (3 CR)

Physiological, psychological, and sociocultural influences on human sexuality, including gender, sexual maturation and behavior, identity, values, orientation, relationships, sexually transmitted diseases, sexual disorders, and therapy.

Prerequisite: PSY 140

RADIOGRAPHY (RAD)**RAD 120 Radiologic Orientation (2 CR)**

The fields of radiologic technology are presented in this course. Hospital and medical clinical personnel, departments, history, hierarchy, development, means and methods of operation are studied with emphasis on the moral, legal and professional rights and responsibilities of the radiographer. Basic radiation protection is presented.

RAD 121 Radiographic Positioning I (4 CR)

A study of proper methods and types of equipment used in positioning for radiographic examinations, interpretation of radiologic request, related positioning terminology, and special positioning variations due to patient age and condition. Anatomy and positioning for the upper and lower extremities, chest, thoracic cage and abdomen are presented. Lab experience is utilized to emphasize course material. Methods of radiation protection are demonstrated. Lab included.

RAD 125 Radiographic Positioning II (4 CR)

Continuation for RAD 121, Radiographic Positioning I. Anatomy and positioning for the skull with related anatomical regions and parts, digestive, urinary, respiratory and spinal column are presented. Lab experiences are used to emphasize course material. Methods of radiation protection are demonstrated and emphasized. Lab included.

Prerequisite: RAD 121

RAD 126 Clinical Practicum I (3 CR)

Clinical experience is provided in this course under the direct supervision of ARRT-registered radiographers. Clinical competencies will be given corresponding to the exams completed in the classroom. Performance standards are used to evaluate the student's progress. **Prerequisite:** RAD 121

RAD 160 Fundamentals of Radiologic Science (4 CR)

Emphasis is on the application of fundamentals to the practice of diagnostic imaging. The course relates the principles of electricity, magnetism, electromagnetic energy, x-ray interaction with matter, radiation protection and the x-ray machine. Emphasis is on the understanding of these principles so as to manipulate a variety of factors to obtain a diagnostic radiograph. A lab experience is utilized to reinforce course content. Lab included. **Prerequisite:** RAD 126

RAD 161 Radiographic Exposure (4 CR)

The essential factors influencing the quality of radiographs will be presented. Exposure factors, accessory devices, various pathological influences, geometric influences, and recording media are presented. Energized laboratory experience will be performed to teach and reinforce learning. Radiation protection methods are studied. Lab included.

RAD 162 Clinical Practicum II (3 CR)

Continuation of Clinical Practicum I. **Prerequisite:** RAD 126

RAD 210 Clinical Practicum III (5 CR)

Continuation of Clinical Practicum II. **Prerequisite:** RAD 162

RAD 212 Special RAD Studies (4 CR)

A more detailed study of special radiographic procedures performed in the radiology department. The course will investigate myelograms, arthrography, sialography, venography, arteriography and intervention procedures, as well as other specialized imaging modalities. **Prerequisite:** RAD 160

RAD 213 Radiobiology (2 CR)

Students review the basics of cell biology and study the basic biologic interaction of radiation. That study will include cellular and tissue response to radiation, as well as radiation pathology, the total body radiation response, and the late effects of radiation. It will conclude with a discussion of clinical radiobiology that includes diagnostic radiology, nuclear medicine and therapeutic radiology. **Prerequisite:** BIO 155

RAD 214 Clinical Practicum IV (5 CR)

Continuation of Clinical Practicum III. **Prerequisite:** RAD 210

RAD 218 Radiographic Pathology (3 CR)

A survey of medical-surgical diseases and the body's natural means of reacting to such diseases. The immune process, inflammatory response process, traumatic and pathologic disturbances, and the natural homeostasis process are presented. Basic congenital abnormalities and normal growth are discussed. Pathologic conditions are related to the effect they have on the imaging process. **Prerequisite:** BIO 155

RAD 219 Clinical Practicum V (5 CR)

Continuation of Clinical Practicum IV. **Prerequisite:** RAD 214

SECRETARIAL SCIENCE (SEC)**SEC 108 Learning the Keyboard (1 CR/F)**

Learn keyboard fundamentals needed for success in computer-related programs. The students learn proper finger placement and key locations on a microcomputer.

SEC 109 Keyboard Speed/Accuracy (1 CR/F)

At course entry, your keyboarding speed and accuracy is measured. A diagnosis of your specific keyboarding problems is made. Your skill improvement goals will be established and appropriate practice lesson selected. Periodic program check timings administered to measure your progress. Work is normally done on a microcomputer.

SEC 131 Beginning Keyboard/Typing (3 CR/F)

Students are introduced to the keyboard and centering, tabulation, memoranda and letters and develop skill and speed. Students learn on microcomputer using word processing software.

SEC 132 Intermediate Keyboard/Typing (3 CR/F)

Learn production typing including tables, letters, manuscripts, reports, and business forms. Students learn on microcomputer using word processing software. Advanced word processing functions are included. **Prerequisite:** SEC 131

SEC 206 Machine Transcription & Editing (3 CR/F)

Transcribing business correspondence from machine recorded dictation. Emphasis is on correct English usage, spelling, punctuation and editing as well as proper form and typewriting techniques. **Prerequisite:** SEC 132

SEC 230 Machine Transcription for the Medical Assistant (2 CR/F)

Develop basic proficiency in transcribing medical correspondence from machine dictation. Emphasizes correct English usage, medical terminology, spelling, punctuation, proper form, and typewriting techniques.

Prerequisite: MOA 110, MOA 141, and ITE 101

SEC 231 Legal Secretarial Practice (3 CR)

Learn to prepare legal documents such as wills, trusts, contracts, corporate articles and bylaws, deeds, and memoranda of law. Prepare and use the forms for probate and bankruptcy, and type legal correspondence. Functions of notaries, record management, and law library responsibilities discussed. Dictation and transcription by shorthand or machine. Emphasizes vocabulary, accuracy, and understanding of documents and procedures. **Prerequisite:** Three of the following: MOA 110, ENG 131 or ENG 231, ITE 101 or ITE 186

SEC 235 Advanced Medical Machine Transcription (3 CR/F)

Cover the following topics: ophthalmology, orthopedics, neurology, mental health and patient case histories. A continuation of SEC 230. **Prerequisite:** SEC 230

SEC 241 Medical Office Procedures (3 CR/W)

Learn the basic concepts of medical office work. Includes coverage of the responsibilities of medical office personnel, including patient contact, maintaining medical records, peg-board accounting and medical office management. **Prerequisite:** Three of the following: MOA 110, ENG 232, ITE 177

SEC 242 Legal Secretarial Procedures (3 CR)

Students introduced to the record management, diary, library, notary and other functions of legal support personnel, and to legal ethics. Prepare correspondence, legal documents, pleadings and other court papers from draft, machine dictation and formbook sources. Accuracy, understanding document content and use, and legal vocabulary emphasized. **Prerequisite:** BUS 145 and ITE 129

SOCIOLOGY (SOC)**SOC 117 Criminology (3 CR/E/W)**

(SAME AS CRJ 117)

Provides an understanding of the cultural nature, origin, and development of criminal behavior with attention given to the psychological and sociological factors involved.

SOC 152 Social Psychology (3 CR/W)

(SAME AS PSY 152)

Theoretical synthesis of social influences, including attitude formation, social and cognitive development, aggression, prosocial behavior, prejudice, conformity, culture and gender differences/influences, group processes, and inter personal attraction. **Prerequisite:** PSY 140 and SOC 231

SOC 203 Field Studies (3 CR)*(SAME AS CRJ 203)*

Only open to students who have reached sophomore level (26 or more credit hours), a minimum 2.5 GPA and permission of the department. An opportunity for students to work for one semester in a law enforcement agency.

SOC 231 Principles of Sociology (3 CR/F,W,S)

The discipline and its contributions to understanding the fundamental processes of social interaction. Includes development of self, socialization process, groups and social structure. Application of sociological principles to our society by examination of relevant research.

SOC 235 Minority Groups in America (3 CR)

Sociology of dominant-minority relations in contemporary American society. Attention to specific ethnic, religious, and racial minorities in terms of prejudice and discrimination.

SOC 236 Women in a Changing Society (3 CR/W)*(SAME AS ENG 236)*

Inquiry into historical and changing roles of women, looking at causes of these changes and their effects on women and society through literature, sociology, biology and history.

Prerequisite: ENG 131**SOC 243 Family Relationships (3 CR)**

The family as a unit in a social context. Structure, function, roles, and relationships of the family are examined. Special emphasis on family formation and problems in development of family life.

SOC 251 Modern Social Problems (3 CR)

Survey of contemporary social problems that perplex people in regard to their personal, social, occupational, economic, or political relations. Systematic investigation of underlying conditions, processes and consequences of problematic behavior. **Prerequisite:** SOC 231

SPEECH (SPH)**SPH 101 Forensic Intercollegiate (1 CR)**

Participate in intercollegiate debate and forensic tournaments. Earn one credit hour per semester, not to exceed four credit hours. Admission to activity does not ensure credit.

SPH 102 Forensic Intercollegiate (1 CR)

Participate in intercollegiate debate and forensic tournaments. Earn one credit hour per semester, not to exceed four credit hours. Admission to activity does not ensure credit.

SPH 200 Speech Writing (1 CR)

Learn to write persuasive, informative, and after dinner speeches. Concentrates on content, organization and technique.

SPH 201 Forensic Intercollegiate (1 CR)

Participate in intercollegiate debate and forensic tournaments. Earn one credit hour per semester, not to exceed four credit hours. Admission to activity does not ensure credit.

SPH 202 Forensic Intercollegiate (1 CR)

Participate in intercollegiate debate and forensic tournaments. Earn one credit hour per semester, not to exceed four credit hours. Admission to activity does not ensure credit.

SPH 231 Communication Fundamentals (3 CR/F,W,S)

Learn the basic principles of speaking well, including interpersonal speech, non-verbal communication, discussion and small group dynamics, and public address. Student speeches are analyzed and criticized for effectiveness.

SPH 233 Argumentation & Debate (3 CR)

Students are provided theory and practice in debate, emphasizing principles of research, logical reasoning, and oral presentation of reasoned discourse in group situations.

SPH 234 Public Address (3 CR)

Explore the role of the speaker, audience, occasion, and the message. Offers opportunities for participation in all general purposes of speech plus some special occasion speeches. Delivery methods are impromptu, extemporaneous, manuscript, and memorized. Outlining, organization, delivery technique and other theories of public address stressed.

SPH 240 Interpersonal Communication (3 CR)

Learn to improve communication in a one-on-one basis and in small group situations. Emphasizes concepts and techniques with people in a variety of human relations situations. Includes units on perspective of interpersonal communication, self-disclosure, creating messages, coping with conflict, intimate relationships and the workplace.

SPANISH (SPN)**SPN 131 Elementary Spanish (4 CR/F, W, S)**

Introduces and develops the four skills of language learning: listening, speaking, reading and writing, with special emphasis on listening and speaking.

SPN 132 Elementary Spanish II (4 CR/W)

Provides increased practice in the basic language skills, listening, speaking, reading and writing. **Prerequisite:** SPN 131

SPN 231 Intermediate Spanish I (4 CR/F)

Improves the basic skills of language learning with emphasis on speaking and writing. Introduces sustained readings in Spanish. **Prerequisite:** SPN 132

SPN 232 Intermediate Spanish II (4 CR/W)

Continues to stress speaking practice and writing improvement. Readings and discussions in Spanish, focusing on contemporary events and Hispanic culture.

Prerequisite: SPN 231

THEATRE (THR)**THR 101 Acting (3 CR)**

Basic technique of acting. For non-majors only.

THR 116 Introduction to Theatre (3 CR/F/W)

Survey of Western theatre and drama. Appreciation of theatre through understanding of historical development and societal function. Theatre architecture, production, costuming, and acting styles, as well as important dramatists and reading of representative plays.

THR 131 Basic Stagecraft (3 CR)

Basic theory in set design and lighting design including tools, equipment, terminology, and techniques relevant to stage scenery and theatrical lighting.

THR 134 Stagecraft II (3 CR)

Continuation of Stagecraft I focusing on further developing techniques of stage scenery construction, rigging, scene painting and technical drafting. Process and methods of communicating design ideas through graphic representation are presented.

Prerequisite: THR 131

THR 145 Fundamentals of Acting I (4 CR/F)

Fundamental theories and methodologies of acting and character development, using theatre games, improvisations and scene work with an emphasis on developing an ensemble.

THR 146 Fundamentals of Acting II (4 CR/W)

Continuation of THR 145, with advanced character work and an opportunity to rehearse and perform with the touring Youth Theatre production. **Prerequisite:** THR 145

THR 148 Fundamentals of Acting III (4 CR)

Advanced acting studies with an opportunity to direct and perform one-act plays in the Theatreworks production.

Prerequisite: THR 145 or THR 146

THR 149 Fundamentals of Acting IV (4 CR)

Acting IV students are showcased in a full-length play chosen with the instructor in a three night performance in Studio One.

Prerequisite: THR 148

THR 151 Stage Makeup (3 CR)

Fundamental techniques of design and application of makeup for theatrical production.

THR 231 Lighting & Sound Design I (3 CR)

Covers the theoretical and practical aspects of lighting and sound design for theatre and dance. Emphasis placed on practical execution of design and problem solving.

THR 232 Lighting & Sound Design II (3 CR)

Continuation of THR 231. An advanced study of lighting and sound theory, and production, with emphasis on design.

Prerequisite: THR 231

THR 251 Stage Makeup II (3 CR)

Advanced techniques of make-up for the stage including design and construction of masks. **Prerequisite:** THR 151

THR 260 Introduction to Directing (3 CR)

Fundamentals of play directing. Exploration of text analysis, staging techniques and rehearsal processes. Student-directed scenes analyzed and critiqued.

THR 268 Theatre Practicum (3 CR)

Practicum for actors, directors, technicians, and playwrights. Students are assigned duties to gain practical experience within their field. May be taken for a total of nine credits.

SPECIAL OPTIONS

Each discipline offers the following options. Contact the specific faculty for more information.

- **INDEPENDENT STUDY – VARIABLE CREDIT**

In-depth study of topics in any discipline that is of special interest to the student. Topic is selected and detailed in consultation with a faculty member.

- **SPECIAL TOPICS – VARIABLE CREDIT**

Intensive, in-depth investigation of one topic of current interest in any discipline. Different topics are chosen by the department.

- **WORK EXPERIENCE - INTERNSHIPS - SEMINARS
VARIABLE CREDIT**

Learn through meaningful work experience with an approved company in any discipline. The position must be obtained by the student and approved by the department before registration is permitted. Students apply the skills and knowledge gained from course work. A department faculty member supervises.

FACULTY

Elizabeth J. Ackley, R.N.

Professor; Allied Health and Nursing

- B.S.N., Michigan State University
- M.S.N., University of Michigan
- Ed.S., Michigan State University
- further graduate study, Michigan State University, Eastern Michigan University, Western Michigan University

Stephen M. Beison

Professor; Science, Health and Physical Fitness

- A.B., M.S., Indiana University
- Ed.D., Ball State University

Mary C. Belknap

Professor; Language, Literature and Arts

- B.S., Western Michigan University
- M.A., Western Michigan University
- Post graduate studies; Michigan State University, Grand Valley State University, Central Michigan University, Eastern Michigan University, Spring Arbor University

Arthur J. Botte, CWI, CWE

Professor; Manufacturing, Business and Automotive

- B.S., Wayne State University
- M.S., Eastern Michigan University
- further graduate study, Eastern Michigan University, Ferris State University, Michigan State University

Janice L. Bradford

Assistant Professor; Science, Health and Physical Fitness

- B.S., Grand Valley State University
- M.S., Eastern Michigan University

Steven R. Brennan, CMfgE, CSIT

Assistant Professor; Manufacturing, Business and Automotive

- B.S., Central Michigan University

Sandra L. Brown, RDMS, RVT

Assistant Professor; Allied Health and Nursing

- A.A.S., Jackson Community College
- B.S., Central Michigan University

Gary J. Cale

Professor; Language, Literature and Arts

- B.A., M.A., University of Iowa
- Ph.D., National-Louis University, Chicago
- further graduate study, University of Colorado at Boulder, Indiana University

Jane F. Campbell

Professor; Manufacturing, Business and Automotive

- A.B., Jackson Junior College
- B.A., Master of Labor & Industrial Relations, Michigan State University
- J.D., Thomas M. Cooley Law School
- M.S.I. (Information and Library Studies) University of Michigan
- further graduate study, Eastern Michigan University, Michigan State University, University of Oslo.

Colleen B. Chadderton, RNC, CPNP

Professor; Allied Health and Nursing

- Diploma- W.A. Foote School of Nursing
- B.S.N., University of Michigan
- M.S.N., Wayne State University
- further graduate study, Eastern Michigan University

Marty J. Chamot, RNC, FNP

Professor; Allied Health and Nursing

- L.P.N., A.D.N., Kellogg Community College
- B.S.N., Nazareth College
- M.S.N., Andrews University;
- F.N.P., Michigan State University

Larry G. Choate

Instructor; Information Technology Education

- B.A., Michigan State University
- M.B.A., University of Michigan

Steven L. Christian

Professor; Manufacturing, Business and Automotive

- B.S., M.B.A., Wright State University
- further graduate studies, Marygrove College, Eastern Michigan University and Western Michigan University
- Fulbright Fellow (Poland and the Czech Republic) 1996

Donald G. Clark

Associate Professor; Language, Literature and Arts

- B.S., Western Michigan University
- M.A., Central Michigan University
- further graduate study, Illinois State University, Michigan State University, Eastern Michigan University

Anthony Cleveland

Instructor; Social Science, Mathematics and Engineering Sciences

- B.S., University of Toledo
- M.A., Michigan State University

Cheryl G. Conrad

Associate Professor; Language, Literature and Arts

- B.A., Michigan State University
- M.A., Western Michigan University
- further graduate study, Michigan State University
- further study, Center for Creative Studies, Spring Arbor College, Siena Heights University

William T. Courter

Professor; Information Technology Education

- B.S., Michigan State University
- M.S., Eastern Michigan University
- further graduate study, Michigan State University, Western Michigan University, Central Michigan University

Leslie Coxon

Assistant Professor; Manufacturing, Business and Automotive

- A.A.S., Los Angeles Trade Technical College
- B.A.S., Siena Heights University
- ASE Master Technician, L-1 Certified, State of Michigan - Master Automobile Certified

Curtis E. Cremeans

Professor; Manufacturing, Business and Automotive

- B.A., M.A., Michigan State University
- further graduate study, Western Michigan University, Eastern Michigan University

Jack Dakessian

Professor; Social Science, Mathematics and Engineering Sciences

- B.S., M.A., M.S., University of Michigan

Deborah D. Davies

Associate Professor; Language, Literature and Arts

- A.A., Jackson Community College
- B.A., University of Michigan
- M.A., Michigan State University
- further graduate study, University of Michigan, Michigan State University

Christine M. Davis, RN, MSN

Assistant Professor; Allied Health and Nursing

- B.S., University of Michigan
- M.S.N., Grand Valley State University

Chris J. DeMarco

Professor; Social Science, Mathematics and Engineering Sciences/Language, Literature and Arts

- B.S., M.S., Arizona State University
- M.A., Michigan State University
- further graduate study, Michigan State University

Jean M. Tannis Dennerll, C.M.A.

Assistant Professor; Medical Assistant Program Coordinator, Allied Health and Nursing

- B.S., Eastern Michigan University
- further graduate study, Michigan State University, Northeastern University

D. James Dingman

Associate Professor; Social Science, Mathematics and Engineering Sciences

- B.A., M.A., Western Michigan University
- further graduate study, Western Michigan University, University of Michigan

Ronald L. Douglass

Associate Professor; Language, Literature and Arts

- B.Mus., Millikin University
- M.Mus., University of Michigan
- Specialist in Ethnomusicology, University of Michigan

Keith E. Drayton

Professor; Language, Literature and Arts

- B.A., Hillsdale College
- M.A., Eastern Michigan University
- M.M., Southern Illinois University
- further graduate study, Michigan State University, Western Michigan University

George D. Econ

Professor; Science, Health and Physical Fitness

- B.S., Texas Christian University
- M.S., Southern Illinois University
- post graduate study, Ohio University, Michigan State University

David S. Fitzgerald

Assistant Professor; Information Technology Education

- B.S., Ferris State University
- M.A., Eastern Michigan University,
- further graduate study, Eastern Michigan University

Thomas G. Fleming

Professor; Social Science, Mathematics and Engineering Sciences

- A.A., Jackson Community College
- B.A., University of Michigan
- J.D., Wayne State University Law School

Stephen Geiersbach R.T.(R), RDMS.

Professor; Allied Health and Nursing

- A.A.S. (radiography), Jackson Community College
- A.A.S. (ultrasonography), Jackson Community College;
- B.A., Spring Arbor College;
- further graduate study, California College for Health Sciences

Ann M. Green

Professor; Language, Literature and Arts

- A.B. and A.M., California State University, San Francisco
- A.D., University of Michigan

Paula Ashley Harris

Professor; Language, Literature and Arts

- B.A., M.A., University of South Carolina
- Ph.D., Michigan State University

Dianne M. Hill

Assistant Professor; Information Technology Education

- B.A., Siena Heights University
- M.S., Ferris State University

Carol A. Hoch, BS, RDMS, RDCS, RVT

Instructor; Allied Health and Nursing

- A.A.S., Jackson Community College
- B.S., Siena Heights University

Gilbert H. Hopper

Professor; Information Technology Education

- B.S., Bradley University
- graduate study University of Toledo
- M.B.A., Michigan State University

Paula D. Hopper, MSN, RN

Associate Professor; Allied Health and Nursing

- A.D.N., Jackson Community College
- B.A., Spring Arbor College
- M.S.N., Wayne State University
- further study, Spring Arbor College, Michigan State University, University of Nebraska-Lincoln

Geri I. Jacobs

Professor; Language, Literature and Arts

- B.A., Marygrove College
- M.A., University of Detroit;
- Ph.D., University of Detroit

Anita M. Johnston

Associate Professor; Social Science, Mathematics and Engineering Sciences

- B.A., Olivet Nazarene College
- M.A., Michigan State University
- further graduate study, Illinois Institute of Technology, Michigan State University, Eastern Michigan University

Martha Petry Joyce

Professor; Language, Literature and Arts

- B.A., College of Saint Teresa
- M.A., Eastern Michigan University
- doctoral studies, University of Iowa

Christine A. Kane, LPC

Associate Professor; Social Science, Mathematics and Engineering Sciences

- A.A., Kellogg Community College
- B.S., M.A., Michigan State University
- further graduate study, Michigan State University, Eastern Michigan University

Karl L. Kersch

Professor; Social Science, Mathematics and Engineering Sciences

- A.S., Kirtland Community College
- B.S., Lake Superior State University
- M.S., Ferris State University
- M.A., Eastern Michigan University
- further graduate study, Central Michigan University, Eastern Michigan University, Ferris State University, Michigan State University

Linda M. Killian, RNC, NP

Professor; Allied Health and Nursing

- B.S.N., College of St. Catherine
- M.S.N., Wayne State University
- Certified Nurse Practitioner, University of Michigan
- further graduate study at Eastern Michigan University and Wayne State University

Michael F. Killian, L.P.C.

Professor; Social Science, Mathematics and Engineering Sciences

- B.S., University of Wisconsin
- M.A., Michigan State University
- Specialist, Eastern Michigan University

Jerome Krakowiak

Professor; Social Science, Mathematics, and Engineering Sciences

- B.S., Michigan State University
- M.S., Western Michigan University
- further graduate study, Michigan State University

Kristi K. Laird

Professor; Social Science, Mathematics and Engineering Sciences

- B.A., Northwestern University
- M.A., University of Michigan

Daniel L. Livingston

Assistant Professor; Manufacturing, Business and Automotive

- B.S., M.A., Western Michigan University
- further graduate study, Butler University, University of Wyoming, Western Michigan University

Norman W. Maison

Professor; Social Science, Mathematics and Engineering Sciences

- A.S., Macomb Community College
- B.S., Wayne State University
- M.A., Central Michigan University;
- further graduate study, Eastern Michigan University, Central Michigan University, Siena Heights University, University of Toledo

Jack L. Malone

Assistant Professor; Manufacturing, Business and Automotive

- B.S., M.A., Western Michigan University

Victor F. Marquardt

Associate Professor; Social Science Mathematics and Engineering Sciences

- B.S.E., M.S.E., University of Michigan
- further graduate study, Michigan State University

Victor B. Marshall

Professor; Science, Health and Physical Fitness

- B.A., Earlham College
- M.S., Ball State University
- further graduate study, Michigan State University, University of Michigan, Eastern Michigan University, Central Michigan University

Marina Martinez-Kratz, R.N.C.

Professor; Allied Health and Nursing

- A.D.N., Jackson Community College
- B.S.N., University of Michigan
- M.S. in Psychiatric-Mental Health Nursing, University of Michigan
- doctoral studies, University of Michigan

Michael C. McGlynn

Professor; Science, Health and Physical Fitness

- A.D.N., Jackson Community College
- B.P.E., University of New Brunswick
- M.B.A., Western Michigan University
- M.S. Nursing, Michigan State University

Suzanne McKee, CPA

Instructor; Manufacturing, Business and Automotive

- B.A., Hillsdale College
- M.B.A., Western Michigan University

Ted Miller

Instructor; Language, Literature and Arts

- B.A., Albion College
- M.A., Michigan State University
- Ed.D., Temple University

Larissa G. Nemoianu

Assistant Professor; Social Science, Mathematics and Engineering Sciences

- M.A., Bucharest, Romania

Sharon M. Nowak

Instructor; Allied Health and Nursing

- B.S.N., St. Francis College
- M.S. Nursing, Eastern Michigan University

Thomas A. Oakley

Assistant Professor; Language, Literature and Arts

- B.Ed., University of Toledo
- M.A., Spring Arbor College
- further graduate study at Ohio State University

Christina A. Olds

Assistant Professor; Information Technology Education

- A.S., Jackson Community College
- B.B.A., M.A., Eastern Michigan University
- further graduate study Ferris State University, Western Michigan University and Marygrove College

Eric C. Ollila, CMfgT

Assistant Professor; Manufacturing, Business and Automotive

- B.S., Northern Michigan University
- M.S., Ferris State University
- further graduate study, Eastern Michigan University, University of Wisconsin

Mark E. Ott

Instructor; Science, Health and Physical Fitness

- B.S., University of Wisconsin-Stevens Point
- Ph.D., University of Minnesota

Jon F. Powell

Instructor; Science, Health and Physical Fitness

- B.S., M.S., Ph.D., Michigan State University

Mona G. Reid

Professor; Social Science, Mathematics and Engineering Sciences

- B.S., Oklahoma State University
- M.A., University of Central Oklahoma
- further graduate study, Eastern Michigan University and Marygrove College

Jody Rooney

Assistant Professor; Social Science, Mathematics and Engineering Sciences

- B.S., Michigan Technological University;
- M.A., University of Michigan

Maria A. Sayers

Associate Professor; Language, Literature and Arts

- B.A., M.A., Michigan State University
- further graduate study, Michigan State University, University of Salamanca (Spain), University of Paris (Sorbonne), Scuola Leonardo da Vinci, Florence

Xania Scheick

Professor; Science, Health and Physical Fitness

- B.S., Case Western Reserve University
- Ph.D., Michigan State University

T. Mark Schopmeyer

Associate Professor; Social Science, Mathematics and Engineering Sciences

- B.A., Michigan State University;
- M.A., Eastern Michigan University

Lynne W. Schreiber, R.T.(R), R.D.M.S.

Assistant Professor; Allied Health and Nursing

- B.S., Siena Heights University
- M.S., Ferris State University
- further graduate study, Eastern Michigan University, Grand Valley State University, University of Michigan

James J. Scott

Professor; Science, Health and Physical Fitness

- A.A., Erie County Technical Institute
- B.S., Findlay College
- M.Ed., Colorado State University
- Ph.D., Michigan State University

Greg E. Severance, P.E.

Associate Professor; Social Science, Mathematics and Engineering Sciences

- B.S.M.E., Michigan Technological University
- M.S., Michigan State University
- Licensed Professional Engineer

Joseph Shackelford, R.T. (R), AART

Instructor; Allied Health and Nursing

- A.A.S., Jackson Community College
- B.A., Spring Arbor University

Kristine Shirk

Assistant Professor; Language, Literature and Arts

- A.A., Jackson Community College
- B.A., M.A., University of Michigan

L. Sue Stindt

Associate Professor; Language, Literature and Arts

- B.S., Eastern Michigan University
- M.S., University of Michigan
- M.A., Eastern Michigan University
- Certified Exercise Specialist, American College of Sports Medicine

Debra K. Swihart, LPC

Assistant Professor; Social Science, Mathematics and Engineering Sciences

- B.S., Central Michigan University
- M.A., Eastern Michigan University
- further graduate study, Michigan State University and Eastern Michigan University

Clifford J. Taylor

Head Librarian; Learning Resource Center

- B.S., B.A., Central Michigan University
- A.M.L.S., University of Michigan
- further graduate study, University of Michigan, Eastern Michigan University and University College London

Sydney J. Thomas

Professor; Language, Literature and Arts

- B.A., M.A., Indiana University
- Ph.D., State University of New York at Binghamton

Laura M. Thurlow

Assistant Professor; Science, Health and Physical Fitness

- B.S., M.S., University of Michigan

Steven J. Thurlow

Assistant Professor; Science, Health and Physical Fitness

- B.S., M.S., Wayne State University
- further graduate study, Michigan State University

Shirin Kambin Timms

Associate Professor; Social Science, Mathematics and Engineering Sciences

- B.A., Bucknell University
- M.A., Western Michigan University
- M.A., Villanova University

Alana Tuckey

Instructor; Social Science, Mathematics and Engineering Sciences

- B.A., M.S., Michigan State University

Barbara Van Syckle

Professor; Manufacturing, Business and Automotive

- B.A., Ohio Wesleyan University
- M.S., Eastern Michigan University
- further graduate study, John Carroll University, The Ohio State University, Syracuse University at The Netherlands, Siena Heights University, Warsaw School of Economics, Pyatigorsk School of Commerce and Trade, Russia

Clara D. Vargo

Instructor; Manufacturing, Business and Automotive

- A.A. and A.S., Jackson Community College
- B.S., Eastern Michigan University
- M.B.A., Eastern Michigan University

Ben D. Vincent RN, EMT-P IC

Instructor; Allied Health, Health and Physical Fitness

- B.A., Concordia College
- A.A.S. Nursing, Jackson Community College
- A.A.S. Emergency Medicine, Washtenaw Community College

Michael G. Walraven

Professor; Social Science, Mathematics and Engineering Sciences

- B.A., University of Maryland
- M.A., Western Michigan University
- Ph.D., Michigan State University
- further graduate study, Michigan Society of Neurology & Psychiatry, Miami University, Michigan State University

Kathleen Walsh, R.N.

Professor; Allied Health and Nursing

- B.S.N., Michigan State University
- B.S., Michigan State University
- M.S., University of Michigan

Martha E. Warner

Professor; Science, Health and Physical Fitness

- B.A., M.S., University of Michigan
- M.S., Michigan State University

Gary M. Wetzel-Righettini

Associate Professor; Language, Literature and Arts

- B.F.A., Wayne State University
- M.A., University of Michigan
- further graduate study, Wayne State University

Linda S. Williams, R.N.C.

Professor; Allied Health and Nursing

- A.D.N., Jackson Community College;
- B.S.N., University of Michigan
- M.S.N., Wayne State University
- further graduate study, University of Michigan, Eastern Michigan University

Woodrow Wilson Jr.

Professor; Social Science, Mathematics and Engineering Sciences

- A.G.S., A.A., Jackson Community College
- B.A., Olivet College
- M.A., Ed.S., Michigan State University; further graduate study, Michigan State University and Western Michigan University

Loren C. Wingblade

Professor; Social Science, Mathematics and Engineering Sciences

- B.S., University of Wisconsin - Madison
- M.A., Northern Illinois University
- M.A., Ph.D., Indiana University - Bloomington;
- Certificate in Clinical Bioethics, Medical College of Wisconsin

Suzanne M. Wood

Professor; Information Technology Education

- A.A.S., Jackson Community College
- B.A., Spring Arbor College
- M.S., Ferris State University

ADJUNCT FACULTY

Patricia Aben
 Richard Adams
 Christine Adams
 Michelle Alexander
 Elaine Allore
 Janet Anderson
 Anna Anzalone
 Nand Arora
 Scott Aube
 William Bailey
 Steven Bailey
 Marna Balazer
 Thomas Barnes
 Carla Barricklow
 Isa Basir
 Joel Baugey
 Lisa Beazley
 Harold Bennett
 Patti Benson
 William Benson VII
 Susan Berendes-Wood
 Barbara Berkeypile
 James Bishop
 Richard Bishop
 Bettina Blank
 James Blanton
 Betty Blount
 Thomas Boldt
 Michael Booher
 Ramona Booher
 Mark Bowman
 Tiffany Boyer
 Jason Broge
 Samuel Brown
 Nancy Brown
 Darlene Bryant
 Billie Buda
 Julie Bullinger-Ballow
 Anne Burchardt
 Eric Burdick
 Kathryn Burk
 Kathryn Burke
 Ryan Burlingame
 Joseph Burns
 Andrea Cabana
 James Caldwell
 Catherine Camburn
 Douglas Canada
 Marty Chamot
 Chris Clawson
 Todd Combs

Michelle Comstock	John Gibbs	Lorraine Lapinski	James Partridge
Jack Converse II	Nancy Gillum	Scott Larsen	Timothy Payne
Thomas Corbin	Gordon Glair	Joseph Lawless	Sharon Peacock
Floyd Crist	James Golba	Albert Lawrence	Thomas Peckham
Erica Crosley	James Grace	Shani LeBaron	Sharon Pedersen
Diane Crosley	Kirkland Green	Amelia Leighton	Ann Pendley
Kathleen Crowley	Kevin Gregg	Raymond Leising	John Perkin
George Cujar	Helen Habib	Deborah Lindberg	Vasile Pirau
Cynthia Cummings	Matthew Hachee	Timothy Litzer	Peter Piveronus
Gregory Curfman	Linda Haines	Holly Lockwood	Von Plessner
Ryan Daenzer	Mark Hamilton	Dean Lockwood	Debra Potter
Denise Day	Jessica Hanchett	Carolyn Lundy	Richard Pratt
David DeBaker	Shenika Hankerson	Kristen Lux	Walter Purk
Christina DeConinck	Karen Hargrove	Tommy Mackinder	Russell Purvis
Amy Decormier	Monetta Harr	Rusandica Manole	Heidi Pusey
Russell DeCorte	Mark Harris	John Manser	Cheryl Ragland
Barry Decoster	Ronald Harris	Christopher Markiewicz	Brooke Rains
Susan Dehncke	Brad Hasler	Dennis Marks	Joann Rauback-Drayton
Nancy Demeter	Lori Haueter	Judith Marry	Thomas Ray
William Denman	John Hauger	Richard Martin	Todd Reck
Timothy Dennerll	John Hayden	Michael Martin	Michael Reno
Gary Detlefs	Thomas Hayes	Kristin Mason	Scott Richardson
James Dewland	Edwin Heap	Kristie McArthur	Victoria Rick
Babette Dickelman	Matthew Heins	Michael McCormick	James Ridgill
D. Scott Dickson	Gedy Helmer	Christine McDermott	Catherine Riley
Daniel Dodge	Robert Henning	David McFarland	Finch Roberts
Harry Domrase	Troy Hicks	Gail McGlynn	Joyce Roberts-Truman
Gerald Driscoll	Josephine Hill	Kimberly McKeown	Leonald Robinson
Destiny Dumire	Lisa Horgan	Russell Meade	Daniel Roggenbaum
Craig Dunham	Jack Howard	Steven Meckley	William Rowland
Paula Durbrow	Terri Huffman	Greg Meschke	William Sadler
Regina Engler	Thomas Hunt	Laura Miles	Theresa Sanders
Bryon Ennis	Cheryl Israel	Cliff Miller	Kelly Sanders
Chad Everett	Tracy Jackson-Smith	Ted Miller	Edward Sauvageau
Dana Everett	Angela Jahr	Gregory Mitchell	Peggie Sayre
Susan Faley	Sherry Joers-Hicks	Susan Mitchell	Matthew Schroeder
Robert Falquet	Jeff Johnson	James Morley	Richard Scott
Richard Farley	Lesley Jones	Abby Mortensen	Rebecca Scott
Gary Farmer	Nancy Jowske	Richard Mortensen	Jason Seacat
Carol Fazekas	Nichole Karabetsos	Mark Mosley	Larry Sears
Terry Ferguson	David Keith	Patricia Motyka	Anne Seppa
Laure Fiero	Angie Kerr	Terri Mount	Ellen Shannon
Jeffrey Fisher	Leroy Kettren	Stephen Murphy	Patricia Shaughnessy
Jason Foster	Richard Kill	Lisa Nanni	Janice Showerman
Bradley Frank	Andrea King	Nancy Niehoff	Michael Sims
Yvonne Freeman	Suzanne Kirk	Bryan Noble	Renata Sims
Heidi Friedel	Susan Klarr	Bruce Nowak	Andrea Smilowski
Lori Gardner	Elaine Kleiner	Jennifer Nowak	Carol Smith
Kenneth Garrison	Robert Kreger	James Obrecht	Josephine Smith
Deborah Garrison	Francis Kruszka	James ODowd	Paul Smith
Emily Gaynor	Michael Kullik	Jan Omo	Joseph Smith
Kim Genco	Thomas Kuntzleman	Maria Orlowski	Wilbur Smith
Heather Getson	Kathleen Lane	Valerie Ott	Kathy Spring

John St Andre
 Julianne Stacey
 David Stadelman
 Barbara Stanfield
 Melissa Stapley
 Daniel Stapley
 Brett Steinhagen
 Robert Stephanski
 George Stephens
 Elizabeth Stevens
 Susan Stewart
 Merry St. John
 Theresa Stowell
 Dale Stoy
 Kevin Studley
 Linda Sutton
 Yvette Swint-Blakely
 Rachelle Teller
 Dorothy Tetreault
 Terry Thomas
 Marc Thomas
 Donald Thompson
 George Thursby
 Jerolyn Towne
 Harry Trapp
 Marie Trevino
 Steven Trosin
 Candice Tucker
 Diane Turner
 Gordon Turner
 Lathan Twining
 Ave Veneklasen
 Robert VerMeulen
 Joyce Versluis
 Michael Vischer
 Rebecca Walch
 William Walker
 Cinda Walton
 Tamara Wass
 Amy Watkins
 Bryan Watson
 Henry Weber
 Ann Wentworth
 Raymond Whiting
 James Wiech
 Mary Wilcox
 Linda Williams
 Larry Williams
 Martin Winn
 Karl Witte
 Melva Wolcott
 Donald Wolosuk
 Julie Wright
 Michael Zacharias

Matthew Zellen
 Amy Zicafoose
 Renee' Ziemba
 David Zuchowski

ADMINISTRATION

Cynthia S. Allen

Vice President; Institutional Advancement
 • A.B., Jackson Community College
 • further study, Spring Arbor University

A. Daniel Ashton

Director; Dahlem Environmental Education Center
 • B.S., M.S., Bowling Green State University

Stewart W. Bailey

Director; Michigan Space and Science Center
 • B.F.A., University of Michigan

Christine E. Beacco

Dean; Student Services
 • A.A.S., Macomb Community College
 • A.G.S., Oakland Community College
 • B.A., Siena Heights College
 • M.A., Central Michigan University

Sue Beerbower

Director; Distance Learning

Stephen Bloomfield

Director; Enrollment Management and Student Life
 • B.A., Albion College
 • M.Ed., Northern Arizona University

Marian Burlingham

Director; Center for Student Success/Service Learning
 • B.A., Hillsdale College
 • further graduate study, Eastern Michigan University, Michigan State University, State University of New York at Buffalo

Diane M. Fenby

Executive Director; Human Resources and Legal Liaison
 • B.A., M.A., Michigan State University

Charlotte Finnegan

Assistant Dean; Foundational Studies
 • B.A. Central Michigan University
 • M.A. Michigan State University
 • further graduate study at Eastern Michigan University

David Frazier

Director; Aviation Technology
 • A.S., Vincennes University
 • B.A., Spring Arbor College
 • Commercial Pilot, ASMEI, CFI A&I, AGI
 • Designated Pilot Examiner, FAA

Thomas E. Gutowski

Director; Auxiliary Services
 • A.G.S., Jackson Community College

Camile Herth

Director; Multi-Cultural Relations
 • B.A., M.P.A., Central Michigan University

John M. Hooker

Executive Director; The Jackson Community College Foundation
 • B.A., Kalamazoo College
 • M.A., University of Michigan
 • further study, Julliard School of Dramatic Arts

Bonnie John-Murray

Coordinator; Special Projects
 • B.A., M.A., Michigan State University

James L. Jones

Director; Information Technology
 • B.A., graduate study, Ferris State University

Dotty Karkheck

Director; Marketing and Public Relations
 • B.S., College of Mt. St. Vincent
 • M.A., H.H. Lehman CCNY

Joyce E. Lockman

Dean; Occupational Education

- A.A., Davenport College
- B.S., Ferris State College
- M.A., Michigan State University
- further graduate study, Michigan State University, Western Michigan University

Jan W. Lyddon

Director; Institutional Research

- B.S., Iowa State University
- M.A., Michigan State University
- M.P.A., Western Michigan University
- Ph.D., University of Michigan

Michael Masters

Director; Financial Services

- B.B.A., Auburn University

Pamela O'Keefe

Controller

- A.A., Jackson Community College
- B.A., Spring Arbor College

Daniel J. Phelan, Ph.D.

President/CEO

- A. A., B. A., Mount St. Clare College
- M.B.A., St. Ambrose University
- Ph.D., Iowa State University

William P. Russell

Director; Employment Services Division

- B.S., Central Michigan University
- further graduate study, Western Michigan University, Spring Arbor College

David A. Sam

Dean; Arts and Sciences

- B.A., M.A., Eastern Michigan University
- Ph.D., Michigan State University

Valerie Schuette

Executive Assistant to the President;
President's Office

- A.A., Business Certificate, Jackson Community College
- B.A., Siena Heights University

Deborah Strohaber

Executive Director; Business and Industry
Development Center

- A.S., Jackson Community College
- B.A., Spring Arbor College
- further graduate study, Kettering University, Michigan State University and Capella University.

William E. Strohaber

Executive Vice President; Education/
Student Services

- B.A., Earlham College
- M.A., Ball State University
- further graduate study, Michigan State University, Eastern Michigan University, Western Michigan University, University of Michigan

James F. Tallman

Director; Plant Operations

- B.S.E., University of Maryland
- M.B.A., Spring Arbor University

Thomas L. Vainner

Vice President; Administrative Services

- B.S., Grand Valley State
- M.B.A., Eastern Michigan University

Penelope Vandenburg, L.L.P.C.

Director; Clyde E. LeTarte Center, Hillsdale

- A.A., A.G.S., Jackson Community College
- B.A., Spring Arbor College
- M.A., Eastern Michigan University

STAFF**Kathrynn Adair**

Project Coordinator; Information
Technology

- B. S., Computer Information Systems - Systems Analysis, Northern Michigan University

Debra Bala

Payroll Specialist; Business Office

Larry Baltimore

Cleaning Team; Facilities

Michael Bartholomew

Aircraft Maintenance Technician;
Aviation Technology

- Certificate, Spartan School of Aeronautics

Janice Bazuin

Clerk; Student Services

- B.S., Eastern Michigan University

Sandra Beagle

Secretary; Auxiliary Services

Jessica Beagle

Student Center Receptionist/Secretary;
Student Services

Debra Belden

Office and Work Keys Coordinator;
Business & Industry Development Center

Randy E. Bentley II

Network and Software Technician;
Information Technology

- A.A., Jackson Community College

Denise Bigham

Office Coordinator; Dahlem

Environmental Education Center

- B.S., Eastern Michigan University

Cheryl Blank

Administrative Secretary; Aviation
Technology

Carol Bliss

Administrative Assistant; Administrative Services

- A.A.S. Accounting/Finance, A.A.S. Business Administration, Jackson Community College

Dorothy Bodde

Teacher/Naturalist; Dahlem Environmental Education Center

Kimberly Bommarito

Freshman Student Services Coordinator; Student Services

- B.A., Communication, Aquinas College
- M.A., Counseling, Central Michigan University

Edward Bonney

Hardware Coordinator; Information Technology

- Certificate Automotive Service Technology, A.A.S. Automotive, A.A.S. Data Processing, Jackson Community College

Monica Bouman

Administrative Assistant; President's Office

- A.A., Jackson Community College

Linda Bowser

Cleaning Team; Facilities

Carol Boyer, CPS

Administrative Secretary; Occupational Education

- Certificate, Information Processing and A.G.S., Jackson Community College

Alison Brietzhe

Weight Training and Conditioning Center Assistant; Arts & Sciences

E. Ann Brown

Front of House Manager; Institutional Advancement

David Burley

Cleaning Team; Facilities

Camilla Carmody

Student Development Coordinator; Robert L. Johnson Downtown Center

- B.S., Aquinas College

Kelly Chambers

Network and Software Technician; Information Technology

Karen Chmielewski

Administrative Secretary; Facilities

Judy Clark

Human Resources Assistant; Human Resources

Marcella Clone

Administrative Secretary; Student Services

- B.S., Grand Valley State University

Melissa E. Combs

Career/Tech Prep Coordinator; Student Services

- A.G.S., Jackson Community College
- B.A., Michigan State University
- M.A., Eastern Michigan University

Neal Cook

Reader Services Coordinator; Foundational Studies

- B.A., M.A., Eastern Michigan University

Nancyetta Conley

Switchboard Operator/Receptionist; Institutional Advancement

Quincie Cooper

Weight Training & Conditioning Center Assistant; Arts and Sciences

- B.S., M.A., Michigan State University

Timothy Court

Space Camp Leader; Michigan Space and Science Center

Daniel Cox

Facilities Special Services; Facilities

Michael Coy

Senior Theatre Technician; Institutional Advancement

- A.A., Jackson Community College

James Dale

Storeroom Manager; Facilities

Linda Danley

Office/Retail Clerk; Dahlem Environmental Education Center

Rosemary Davis

Building Secretary - Whiting Hall; Occupational Education

Joan Day

Operations Coordinator - Learning Resources Center; Arts and Sciences

- A.A., A.S. Business, Jackson Community College

Cheryl DeGroote

Institutional Grant Writer; Institutional Advancement

- A.A., Jackson Community College
- B.A., Spring Arbor College

Bernadette Dewland

Administrative Secretary; Arts and Sciences

- A.A.S. Information Processing and A.A.S. Executive Secretary, Jackson Community College
- B.A., Spring Arbor University

Jeffrey Dexter

Cleaning Team; Facilities

Sandra DiCesare

Theatre Technician; Institutional Advancement

- B.F.A., Kent State University
- M.A., University of Akron

Patrick Donelan

Hardware/Audio Visual Technician; Information Technology

- A.A.S. Medical Secretary, Jackson Community College

Prudence Dreyer

Ticket Sales Representative; Institutional Advancement

Elsia Drumhiller

Cleaning Team; Facilities

Daniel Duncan

Cleaning Team; Facilities

Mary S. Ezell

Circulation Desk - Learning Resources Center; Arts and Sciences

- B.A., State University College of New York at Potsdam

Eldon Fields

Weight Training and Conditioning Center Assistant; Arts and Sciences

- A.G.S., Jackson Community College

Jeffrey Fisher

Coordinator; Aviation Technology

Renee Fleming

Clerk, Student Services

- A.G.S.; Jackson Community College

Ralph Fogarty

Weight Training and Conditioning Center Assistant; Arts & Sciences

Angel Fonseca

Administrative Assistant; Education/ Student Services

- A.S., Jackson Community College

Yvonne Freeman

Weight Training and Conditioning Center Assistant; Arts & Sciences

Marilynn Fryer

Writer; Marketing and Public Relations

- B.S. Journalism & Political Science, Eastern Michigan University

Kenneth Garrison, CMfgT

Business Development Liaison; Business and Industry Development Center

- A.A.S., Kellogg Community College

Marianne George

Office Manager; Lenawee Center

- A.A.S. Accounting, Jackson Community College

Marla Grant

Weight Training and Conditioning Center Assistant; Arts & Sciences

Amanda Gray

Secretary; Clyde E. LeTarte Center - Hillsdale

- B.A., Siena Heights University

Greg Green

Audio Visual Coordinator; Information Technology

Max Hamilton

Building Maintenance; Facilities

Derrick Hardman

Building Maintenance; Facilities

Jerome Heard

Events Services; Facilities

Khristine Henson-Jones

Lead Employment Advisor; Employment Services

- B.A., Human Services, Siena Heights University

Jennifer Herrick

Cashier; Business Office

- A.A.S., Business, Certificate Management, Jackson Community College
- B.A., Siena Heights University

Carol Hicks

Secretary; Arts & Sciences

- A.G.S., Jackson Community College

Katherine Hicks

Cleaning Team Leader; Facilities

Linda Hoard

Financial Aid Coordinator; Student Services

- B.B.A., Western Michigan University

Kenneth Hoyle

Cleaning Team; Facilities

Lonnie Hutchinson

Physical Plant Maintenance Team Leader; Facilities

Penny Janiak

Ticket Office Manager (Weekdays); Institutional Advancement

Patricia Kilburn

Copier Operator; Auxiliary Services

Teresa Klassen

Weight Training and Conditioning Center Assistant; Arts and Sciences

Rose Klee

Assistant Registrar; Registration & Records

Linda Krejcik

Alumni/Advancement Coordinator; The Jackson Community College Foundation

- A.A.S. Information Technology, Jackson Community College

Donald Lauraine

Events Services; Facilities

Susan Lewis

Secretary; Occupational Education

- B.A., Spring Arbor College

Janet Lyons

Administrative Secretary; Arts and Sciences

Tina May

Secretary; Lenawee Center

Sandra McDaniels

Financial Aid Coordinator; Student Services

- A.A.S. Executive Secretary, Jackson Community College

Justin McDermott

Weight Training and Conditioning Center Assistant; Arts and Sciences

Scott Miller

Camp Leader; Michigan Space and Science Center

William Moore

Space Camp Leader; Michigan Space and Science Center

- A.A.S., Management/Marketing, A.A.S., Data Processing, West Shore Community College

Timothy Morris

Camp Leader; Michigan Space and Science Center

Mary Morrow

Recruiter; Admissions

- A.A., Jackson Community College
- B.S., Grand Valley State University

William Nichols

Events Services; Facilities

Sandra Orta

Gift Shop Attendant; Michigan Space and Science Center

- B.A., Wayne State University

Sandra Phelan

Administrative Assistant; Institutional Advancement

- B.G.S., University of Michigan

Dennis Pierce

Facilities Team Leader; Facilities

Sharon Raciboski

Secretary; Robert L. Johnson Downtown Center

MaryAnn Rainey

Student Services Coordinator; Non-Traditional Students, Student Services

- B.A., Central Michigan University

Peter Redovich

Curriculum Designer; Distance Learning

- A.A., Jackson Community College;
- B.A., Western Michigan University

Kenneth Reed

Physical Plant Maintenance; Facilities

Scott Reynolds

Cleaning Team; Facilities

Brian Richardson

Weight Training and Conditioning Center Assistant; Arts and Sciences

Kenneth Risiner

Building Maintenance; Facilities

Bethany Rogers, CPS

Coordinator CSS; Foundational Studies

- A.A.S., Jackson Community College

Isabel Ross

Retail Sales Clerk; Dahlem Environmental Education Center

Roger Sadowsky

Camp Leader; Michigan Space and Science Center

- A.A.S., Automotive Machine Technology, Ferris State College;
- A.S.E. Master Automotive Machinist Certification

Jeffrey Schneider

Accountant; Business Office

- B.A., Spring Arbor College

Natalie Schroeder

Training and Student Consultant Assistant; Information Technology

- B.S., Michigan Technological University

Walter Schweizer

Groundsperson; Facilities

Anne Seppa

Weight Training and Conditioning Center Assistant; Arts and Sciences

Aurelie Seward

Training, Policy, and Student Consultant Coordinator; Information Technology

- A.A., Jackson Community College
- B.A., Michigan State University

Nancy Shepardson

Office Coordinator; Robert L. Johnson Downtown Center

Janice Showerman

Weight Training and Conditioning Center Assistant; Arts and Sciences

Sarah Smith

Lead Employment Advisor; Employment Services

Timothy R. Smith

Physical Plant Maintenance; Facilities

James Snyder

Physical Plant Maintenance; Facilities

- A.G.S., Jackson Community College

Irene Sonnett

Financial Aid Coordinator; Student Services

- A.G.S., Jackson Community College;
- B.A., Spring Arbor College

Katrina L. Spry

Secretary; Aviation Technology

- B.S., Western Michigan University

Elizabeth Stevens

Weight Training and Conditioning Center Assistant; Arts and Sciences

- B.S., Western Michigan University

Robert Stout

Cleaning Team Member; Facilities

- A.A.S., Business, Jackson Community College

Barbara Stuart

Weight Training and Conditioning Center Assistant; Arts and Sciences

Robert Swihart

Physical Plant Maintenance; Facilities

Terri Swihart

Registration Coordinator/Academic Advisor; Student Services

- A.G.S., Jackson Community College
- B.A., Spring Arbor College

Christopher Swindle

Database and Internet Systems Technician

- B.S. Rose-Hulman Institute of Technology

Robert Swope II

Lead Employment Advisor; Employment Services Division

Lisa Taylor

Solution Center Coordinator; Information Technology

- A.A.S., Executive Assistant, Jackson Community College
- B.A., Business Administration, Siena Heights University

Rene Teater

Advisor; Lenawee Center

- B.S. Indiana State University
- M.A., Siena Heights University

Linda Trumbull

Grade/Transcript Coordinator; Student Services

- A.A.S., Information Processing, Jackson Community College

Rebecca Turner

Scheduling Coordinator; Student Services

- A.G.S., Jackson Community College

Timothy Upham

Network Coordinator; Information Technology

Diane Valen

Program Coordinator; Dahlem Environmental Education Center

- B.S., graduate study, University of Minnesota

Rodney VanOrder

Messenger; Facilities

Jason Vasaris

Theatre Technician/Scene Shop Supervisor; Institutional Advancement

- A.A., Jackson Community College

Linda Vinton

Ticket Sales Representative; Institutional Advancement

Cristen Vogt

Ticket Office Manager (Weekend); Institutional Advancement

Laura Warren

Secretary; Student Services

- A.A., Jackson Community College

Melissa Weatherwax

Employment Specialist; Human Resources

Don Whipple

Grounds Foreman; Facilities

Jeffrey Whipple

Safety/Security Specialist; Facilities

Teresa Wielenga

Executive Assistant; The Jackson Community College Foundation

Michael Wilkinson

Employment Advisor Specialist; Employment Services

- A.G.S., Jackson Community College
- further study, Eastern Michigan University

Nathan Wilson

Operations Coordinator; Aviation Technology

Richard Wilson

Secretary; Clyde E. LeTarte Center - Hillsdale

Lana Wood

Secretary; Institutional Research

- B.S.W., Spring Arbor University

John Wynn, Sr.

Weight Training and Conditioning Center Assistant; Arts & Sciences

Dennis Young

Coordinator of Technical Services; Institutional Advancement

Ellen Young

Building Secretary - Walker Hall; Arts & Sciences

- A.A., A.A.S. Accounting, Jackson Community College

Michael Young

Software and Groupware Coordinator; Information Technology

Dorothy R. Znosko

Graphic Designer; Marketing and Public Relations

- Certificate, Graphic Design, Jackson Community College

- A+/Network+ Skill Set Credential 50-51
- Academic Advising 22-23
- Academic Skills 31-32
- Academic Year 16
- Accounting/Finance:
- Associate in Applied Science Degree Program 46-47
 - Certificate Program 47
 - Course Descriptions (ACC) 98
 - Course Descriptions (FIN) 115
 - General Transfer Information, 38-39
- Accreditation 4
- Administration and Administrators 140-141
- Admission Policy and Procedures 10
- Advising and Registration 10-11
- Allied Health 69
- (Also see individual titles, such as Medical Assistant, Medical Receptionist, Diagnostic Medical Sonography, Emergency Medical Services)
- Anthropology:
- Course Descriptions (ANT) 100
- Applied Industrial Technology:
- Course Descriptions (AIT) 100
- Apprenticeship 66
- Architecture 68-69
- Art: Course Descriptions (ART) 100-101
- Art Transfer Programs 38-39
- Articulation 12, 40
- Assessment, student 31
- Associate in Applied Science Degree 29, 38
- Associate in Arts Degree 29, 32-33
- Associate in General Studies Degree 29, 36-38
- Associate in Science Degree 29, 34-36
- Atkinson Learning Resources Center (LRC or Library) 24
- Attendance Policy 18
- Audit, classes 18
- Automotive Service
- Associate in Applied Science Degree Program 60-61
 - Certificate Program 62
 - Course Descriptions (AUT) 101-103
- Aviation Flight Technology:
- Associate in Applied Science Degree Program 62-63
 - Course Descriptions (AFT) 98-100
- Baughman (Michael J.) Theatre 8
- Biology:
- Course Descriptions (BIO) 103
 - General Transfer Information 38-39, 97
- Bio-Medical Sciences (pre-medicine, pre-dental, pre-pharmacy):
- General Transfer Information 38-39, 86
- Board of Trustees *inside front cover*
- Bookstore 25
- Broadway Revue 126
- Business:
- Associate of Arts 58-59
 - Skill Set Credentials 49
 - Management Certificate 49-50
- Business Administration:
- Associate in Applied Science Degree Program 47-48
 - Certificate Program 48
 - Course Descriptions (BUS) 103-104
 - General Transfer Information 38-39, 58-59
- Business and Industry Development Center 28
- Bus Transportation 25
- Cafeteria 25
- Career Advising 22
- Catalog of Entry 21
- Center for Student Success 23-24
- Certificate Requirements 29-30
- Certified Corrections Officer Program 93
- Chemistry:
- Course Descriptions (CEM) 105
 - General Transfer Information 38-39
- Child Care (See Early Childhood Development and Education)
- Child Care (Main Campus) 28
- Child Development Credential (CDA) 90-91
- CLEP 11
- Climate Control Systems:
- Associate in Applied Science Degree Program 66-67
 - Certificate Program 67
 - Course Descriptions (AIT) 100
- Clubs 25-26
- College Credit for Prior Learning 11-12
- College Incentive Program (CIP) 26
- Commencement 20-21
- Completion Requirements (Certificate) 29-30
- Computer Assisted Drafting:
- Course Descriptions (CAD) 104-105
 - Skill Set Credential 63
- Computer Labs 24-25
- Computer Programming Specialist:
- Associate in Applied Science Degree Program 51-52
 - Certificate Program 52
- Computer Science (Also See Information Technology)
- Education 46, 59
 - Course Descriptions (CPS) 105
 - General Transfer Information 38-39, 59
- Computerized Career Assessments 23
- Continuous Enrollment 20

Corrections:		Early Childhood Development and Education:	
Associate in Applied Science Degree Program	91-92	Associate in Applied Science Degree Program	87-89
Certificate Program	92	Skill Set Credentials	89-90
Corrections Officer (State of Michigan Certified)	93	Course Descriptions (ECE)	109-111
Skill Set Credential	93	Economics: Course Descriptions (ECN)	109
Course Descriptions (CRJ)	106	Education (Elementary and Secondary):	
Courses, Description of	98-133	Course Descriptions (EDU)	111
Course Placement Program	10	General Transfer Information	96-97
Credit for Prior Learning	11-12	Electrician:	
Criminal Justice: (See Corrections)		Associate in Applied Science Degree Program	67-68
Programs	91-95	Certificate Program	68
Course Descriptions (CRJ)	106	Basic Skill Set Credential	68
General Transfer Information	38-39, 95	Course Descriptions (ELT)	111-113
Cuiss (Victor S.) Fieldhouse	27	Electronic Technology/ELT:	
Customer Energy Specialist: Certificate Program	63	Associate in Applied Science Degree Program	64
		Certificate Program	65
		A+ /Network+ Skill Set Credential	50-51
		Course Descriptions (ELT)	111-113
		Electronic Technology/Microcomputer Support:	
		Associate in Applied Science Degree Program	64-65
		Certificate Program	66
		A+ /Network+ Skill Set Credential	50-51
		Course Descriptions (ELT)	111-113
		Emergency Medical Services:	
		Associate in Applied Science Degree Program	75-76
		Certificate Program	76
		Course Descriptions (EMS)	113-114
		Emergency Medical Technician Skill Set Credential	76-77
		Employment, On-Campus	15
		Engineering:	
		Course Descriptions (EGR)	113
		General Transfer Information	38-39, 69
		English: Course Descriptions (ENG)	114-115
		General Transfer Information	38-39
		Enrollment Services	22
		Excellence in Learning Awards	26
		Extension Centers	7-8
		Faculty:	
		Full-time	134-138
		Adjunct	138-140
		Family Educational Rights and Privacy Act	19-20
		Fees	16
		Fieldhouse (Victor S. Cuiss)	27
		Finance (Accounting/Finance):	
		Associate in Applied Science Degree Program	46
		Certificate Program	47
		Course Descriptions (FIN)	115
		(ACC)	98
		Financial Aid Services and Applications	13-14
Dahlem Environmental Education Center	9		
Dance: Course Descriptions (DAN)	106		
DANTES	11		
Data Processing (See Information Technology Education			
Computer Programming Specialist, Microcomputer Applications			
Specialist and Computer Science)	46, 50-55		
Day Theatre (Ruth Day Theatre)	8		
Dean's List	26		
Degree Requirements	29, 31-38		
Dental Hygiene Transfer Program	86		
Diagnostic Medical Sonography:			
Associate in Applied Science Degree Program	69-71		
Certificate Program	71		
Course Descriptions (DMS)	107-109		
Diagnostic Medical Sonography/Echocardiography:			
Associate in Applied Science Degree Program	73-74		
Certificate Program	75		
Course Descriptions (DMS)	107-109		
Diagnostic Medical Sonography/ Vascular Technology:			
Associate in Applied Science Degree Program	71-72		
Certificate Program	73		
Course Descriptions (DMS)	107-109		
Disabilities (Students with)	23-24		
Discrimination (Civil Rights and			
Equal Opportunity)	inside front cover		
Displaced Homemaker Program	24		
Distance Learning	8		
Downtown Center (Robert L. Johnson Center)	7		
Drafting (See Computer Assisted Drafting - CAD)			
Drama (See Theatre)			
Drop or Withdraw Procedures	17-18		
Drug-free Campus Policy	6		
Dual Enrolled Students	10, 13		

- Flight Centers 8
 Food Services 25
 Foreign Language Requirements, Transfer Information 39
 Foreign Students 12
 French: Course Descriptions (FRN) 115
 Freshman Year Seminar: Course Descriptions (FYS) 116

 General Education: Course Descriptions (GEN) 116
 Substitutions and Waivers 31
 Geography: Course Descriptions (GEO) 116
 Geology: Course Descriptions (GEL) 116
 German: Course Descriptions (GER) 116
 Grade Change Requests 19
 Grading System, Grade Reports and Grade Point Average
 (GPA) 17-19
 Graduation 20-21
 Graduation with Honors 21
 Graphic Design: (See Visual Communication)
 Grants (see Financial Aid Services) 13-14
 Guarantees 5
 Guest Students 13

 Health and Physical Fitness: Course Descriptions (HPF) 117-118
 Health Programs (See individual titles such as Medical Assistant,
 Medical Receptionist, Diagnostic Medical Sonography and
 Emergency Medical Services Health Sciences, General Transfer
 Information)
 High School Students 13
 Hillsdale Center 7-8
 History: Course Descriptions (HIS) 116-117
 General Transfer Information 38-39
 History of JCC 4
 Honor Points 17
 Honors, Graduation 21
 Human Resources Department 6-7
 Humanities: Course Descriptions (HUM) 118

 Incomplete Grade 18
 Independent Study 133
 Information Technology Education 46
 Course Descriptions (ITE) 118-122
 Information Technology, use of 6
 Institutional Advancement, Office of 8
 International Students 12
 Internet Access 24
 Internships 133
 Intramural Sports 25

 Jackson Junior College 4
 Job Placement 23
 Johnson (Robert L.) Downtown Center 7

 Law Enforcement:
 Associate in Applied Science Degree Program 93-95
 Certificate Program 95
 Learning Excellence Awards 26
 Learning Resources Center (Library) 24-25
 Learning Support Services
 (see Center for Student Success) (LSS) 23-24
 Lenawee Center, Adrian 7
 LeTarte Center, Hillsdale 7-8
 Library (LRC or Atkinson Learning Resources Center) 24-25
 Licensed Practical Nursing (LPN) Course Descriptions 122-123
 Loans (See Financial Aid Services)

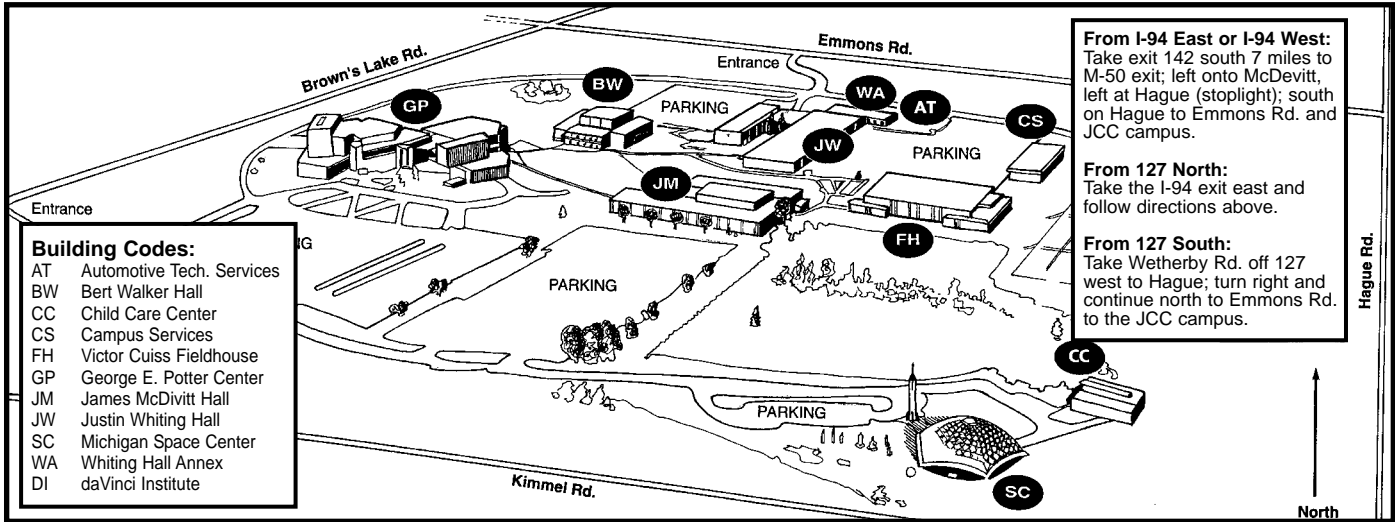
 MACRAO (Michigan Association of Collegiate Registrars and
 Admissions Officers), Articulation Agreement 40
 Management: Certificate Program 49-50
 Map to JCC Locations *inside back cover*
 Marketing: Certificate Program 50
 Mathematics: Course Descriptions (MTH) 124
 General Transfer Information 38-40, 97
 Medical Assistant:
 Associate in Applied Science Degree Program 77-78
 Certificate Program 78-79
 Course Descriptions (MOA) 123-124
 Medical Receptionist/Insurance Biller: Certificate Program 79-80
 Medical Receptionist/Transcriptionist: Certificate Program 79
 Michigan Association of Collegiate Registrars and Admissions
 Officers, (MACRAO) Articulation Agreement 40
 Michigan Occupational Information System (MOIS) 23
 Michigan Space and Science Center 9
 Microcomputer Applications Specialist:
 Associate in Applied Science Degree Program 52-53
 Certificate Program 54
 Microcomputer Support Technology (See Electronic Technology)
 Microsoft Office User Specialist Certificate Program 54-55
 Military Service 11
 Minority Student Services 28
 Mission, Vision and Values 5
 MOIS (Michigan Occupational Information System) 23
 Music:
 Course Descriptions (MUS) 125-127
 General Transfer Information 38-39, 45
 Music Hall (Harold Sheffer) 8

Natural Science: Course Descriptions (NSC)	127	Radiography	84
Networking Specialist: Certificate Program	55-56	Associate in Applied Science	84-85
Non-Traditional Student Support	22	Course Descriptions (RAD)	130-131
Nursing	80-84	Records, student	19
Associate in Applied Science	80-82	Refund Policy	16-17
Transfer Program with University of Michigan	80, 86	Registration Procedure	16
Course Descriptions (NUR)	127-128	Repeat Grade Policy	19
Course Descriptions (LPN)	122-123	Residency	16
General Transfer Information	38-39	Robert L. Johnson Downtown Center	7
LPN to ADN	82-83		
Practical Nurse	83-84		
		Scholarships	13-14
Occupational Program Guarantee	6	Second Admit Programs	39
Occupational Therapy: General Transfer Information	38-39	Secondary Education: Transfer Information	38-39, 97
Office Automation Specialist:		Secretarial Science: Course Descriptions (SEC)	131
Associate in Applied Science Degree Program	56-58	Sexual Harassment	7
Office of College Diversity	26	Siena Heights University	40, 59, 95
Open Entry/Open Exit (OEOE) System	17	Single Parent Programs	24
		Sheffer (Harold) Music Hall	8
Paramedic (See Emergency Medical Services)		Snyder (Robert E.) Dining Room	25
Pass/Fail Option	18	Social Work	95-96
Pharmacy: General Transfer Information	38-39, 86	General Transfer Information	38-39, 95-96
Philosophy: Course Descriptions (PHL)	128	Sociology: Course Descriptions (SOC)	131-132
Phi Theta Kappa Honors Organization	26	Solution Center	7
Phoenix Student Newspaper	26	Space & Science Center	9
Phone Numbers	<i>inside front cover</i>	Spanish: Course Descriptions (SPN)	132-133
Physical Therapy: General Transfer Information	38-39, 86-87	Special Needs and Non-Traditional Students	22-24
Physics: Course Descriptions (PHY)	128-129	Speech: Course Descriptions (SPH)	132
Placement Services	23	Spring Arbor University	40
PLATO	24	Staff	141-145
Political Science (Pre-Law):		Student: Activities	25
Course Descriptions (PLS)	129	Aid	14
Transfer Information	38-39, 96	Assessment	31
Portfolio	12	Association	25
Potter (George E.) Center	8	Center	22
Pre-Architecture: General Transfer Information	38-39, 68-69	Classifications	16
Pre-Dentistry: General Transfer Information	38-39, 86	Code of Conduct	6, 18-19
Pre-Law: General Transfer Information	38-39, 96	Degree-seeking	12
Pre-Medical: General Transfer Information	38-39, 86	Employment	15
President's Message	4	Enrollment Figures	4
Pre-Professional Programs	39	Honors	26
Pre-Veterinary Medicine: General Transfer Information	38-39, 87	Non-degree seeking	13
Prior Learning	11-12	Overload	16
Psychology: Course Descriptions (PSY)	129-130	Parliament	25
General Transfer Information	38-39, 95	Publications	26
Publications, student	26	Records Access and Privacy	19-20
		Rights and Responsibilities Booklet	6
		Support	22-24
		Student Life	25
		Substitutions and Waivers	31

Teaching (See Education)	
Theatres at JCC:	
Baughman (Michael J.) Theatre	.8
Day (Ruth) Theatre	.8
Sheffer (Harold) Music Hall	.8
Theatre: Course Descriptions (THR)	.133
General Transfer Information	.38-39
Transcript Requests and Fees	.19
Transfer: (See Career Pathways)	.38-39
Advice	.22, 38-39
Guarantee	.5-6
Guidelines	.38-39
To a four-year school	.22
Transferring Credits to JCC	.10-11
Transportation	.25
Trillium Publication	.26
Tuition	.16
Tutoring	.24
Veteran Affairs	.14-15
Vision, Values, Mission	.5
Visual Communication/Graphic Design:	
Associate in Applied Science	.41-42
Certificate Program	.43
Visual Communication/Multimedia and Web Design:	
Associate in Applied Science	.42-43
Certificate Program	.43-44
Web Design (see Visual Communication)	
Weight Training and Conditioning Center	.27
Withdraw or Drop Procedure	.17-18
Workforce Development	.28
Work Keys	.28
Work-Study	.13, 133
Writing Center	.24
Year Academic	.16

WELCOME TO JACKSON COMMUNITY COLLEGE MAIN CAMPUS

2111 Emmons Rd., Jackson, MI 4920-8399 • (517) 787-0800



JCC OFF-CAMPUS LOCATIONS

Johnson Downtown Center

230 W. Cortland
Jackson, MI 49201-2210
(517) 787-3600

JCC Lenawee Center

1008 W. Maple Avenue
Adrian, MI 49221
(517) 265-5515

LeTarte Center, Hillsdale

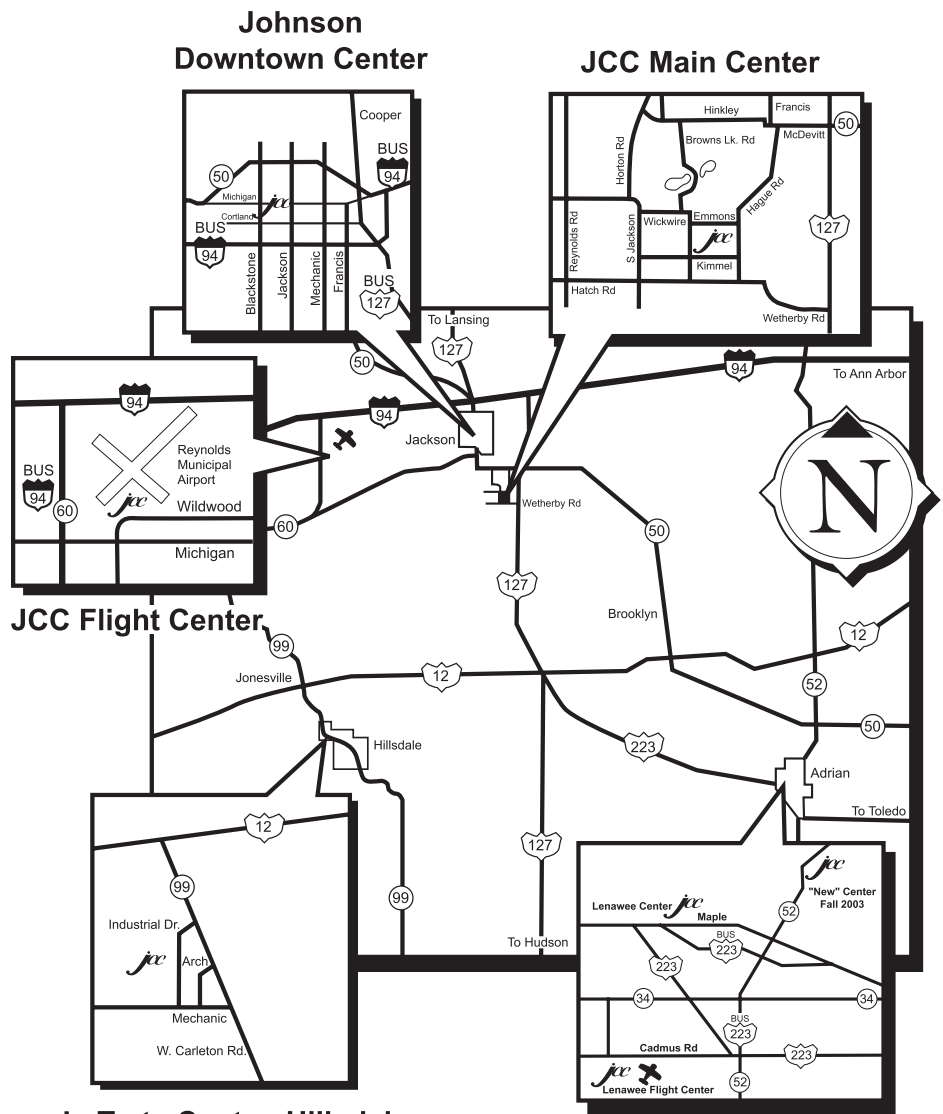
3120 W. Carleton
Hillsdale, MI 49242
(517) 437-3343

JCC Flight Center Jackson

Jackson County Airport
Reynolds Field
Jackson, MI 49202

JCC Flight Center Adrian

Lenawee County Airport
2651 Cadmus Road
Adrian, MI 49221
(517) 263-1351



LeTarte Center, Hillsdale

JCC Lenawee Center
& JCC Lenawee Flight Center



Mission Statement:

Jackson Community College is an institution of higher learning whose mission is to provide quality learning opportunities for individual growth and community improvement.

Vision Statement:

Jackson Community College is the learning college of choice for the communities it serves. It is valued as an essential contributor to the intellectual, cultural and economic well being of those communities. It exceeds the expectations of all stakeholders.



2111 Emmons Rd.
Jackson, MI 49201-8399
(517) 787-0800

www.jccmi.edu