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MCC ACADEMIC PROGRAMS

Associate in Science and Arts Degree

This degree is for students intending to transfer to a four-year college or university. If you wish to major in a program that requires you to transfer to a four-year college, such as Social Work or Computer Science, the courses you need to take are outlined in the curriculum guides available online at *www.muskegoncc.edu* or in the Counseling Center, Room 101. These programs are planned to enable students to transfer to bachelor degree-granting colleges and universities with advanced standing. Students graduating from Muskegon Community College with an Associate in Science and Arts Degree are generally admitted to the bachelor degree-granting institutions with junior year standing.

Associate in Applied Science Degree

If you wish to major in an occupational program that requires only two years of study, such as Electronics or Office Systems, the courses you need to take are outlined in this catalog. You will want to pursue the Associate in Applied Science Degree. The Associate in Applied Science Programs (Business, Allied Health, Technology) were designed in conjunction with active advisory committees so that a student may reasonably expect employment upon successful completion of his/her degree work. The Associate in Applied Science Degree may also be used as a transfer degree to a limited number of baccalaureate programs, but A.A.S. degree programs are not specifically designed to transfer to four-year colleges or universities.

Diplomas, Certificates and Professional Development Credits

Certificates are offered in many of the same occupationally-oriented programs as the Associate in Applied Science Degrees but are not as comprehensive in nature. These certificate programs were developed with the assistance of an advisory committee, and students may reasonably expect employment upon completion of these programs. New certificate and professional development programs are continually being developed at Muskegon Community College. Students should check with counselors for information on other certificate and professional development programs which may be available.

IT IS STRONGLY RECOMMENDED THAT STUDENTS SEE A COUNSELOR TO DEVELOP A COURSE PLAN FOR PURPOSES OF TRANSFERRING TO A FOUR-YEAR INSTITUTION OR OBTAINING A TWO-YEAR DEGREE OR CERTIFICATE.

Students returning to Muskegon Community College after an absence of FIVE YEARS OR LONGER will be under the requirements of the CURRENT CATALOG.

ASSOCIATE IN SCIENCE AND ARTS DEGREE PROGRAMS

The College shares the view held by many that an education should prepare a person not only for a career, but also for life. It is primarily through the curriculum of the general education program for the Associate in Science and Arts Degree that the College seeks to help students acquire the knowledge and skills necessary to understand both themselves and the world in which we live. For a complete statement regarding the purposes of general education, please see pages 12 to 15 of this catalog. This degree automatically fulfills the MACRAO AGREEMENT.

***REQUIRED FOUNDATIONAL SKILLS**

The College believes that a successful, meaningful experience in college courses occurs when students enter programs adequately prepared to meet their challenges. Therefore, you must demonstrate a minimum level of achievement, either by successful testing or satisfactory course completion (a grade of "C" or better), in four areas: writing, reading, math and computers. See page 22 for information on testing.

BASED ON TEST RESULTS YOU MAY BE REQUIRED TO COMPLETE:

1. Writing.....English 085, 089, 091, and/or 114
2. Reading ..... Reading 040A or 040C
3. Mathematics ..... Math 050
4. Computers ..... CIS 100 or any other CIS course
   (Students are strongly recommended to complete CIS 110 or CIS 120A, or CIS 129.)

*You may test out of each of these requirements.

GENERAL EDUCATION REQUIREMENTS **MINIMUM CREDIT**

Communication

English 101 and 102 ..... **6**

Science/Math 8

Courses must be taken in more than one academic area and be numbered 100 level or above and include at least one 4-credit hour laboratory course. If Biology 100 is elected, four different one-credit hour modules are needed to satisfy the laboratory course requirement.

Anthropology 105
Astronomy 101, 105A (Same course as Physics 105A)
*Biology 103, 104, 105, 106, 109, 110, 120, 122B, 207
Biology 200
*Biology 200L
Business 105 (Same course as Mathematics 115)
!!!*Chemistry 109 (Lecture) & 109A (Lab), Chemistry 100 (Lecture) & 100A (Lab), 101 (Lecture) & 101A (Lab), 102 (Lecture) & 102A (Lab), 120 (Lecture) & 120A (Lab), 130 (Lecture) & 130A (Lab), 201E (Lecture) & 201F (Lab), 202F (Lecture) & 202G (Lab)
{All Chemistry classes must be taken with the accompanying Chemistry lab for laboratory credit.}

*Geography 101A, 215
*Geology 101, 102
Mathematics 105, 107,109, 111, 112, 115 (Same course as Business 105), 151, 161, 162, 215, 274, 283, 295
*Physical Science 101A
*Physics 201, 202, 203, 204
Physics 105A (Same course at Astronomy 105A)

*These courses will satisfy the laboratory requirement.

!!!Chemistry placement test is required prior to taking Chemistry 101. Contact the Testing Center at 231.777.0394.

The Human Experience

Aesthetic Values 3
Art 101, 104, 105B, 107, 108, 109, 204B, 205, 207, 208, 209, 211
Communication 203 (Same course as English 208)
Dance 100, 101, 102, 106, 200, 201, 213, 218
English 208 (Same course as Communication 203), 223
Music 103 and ALL other Music courses numbered 100 or above
Theater 101, 102, 108, 120, 141, 142, 144, 145, 147, 148, 160, 201, 202, 203, 210, 212, 217, 260

Ethics and Logic 3
Philosophy 101,102, 104, 202, 204, 205

Social Relationships 3
Economics 101, 102, 130
Psychology 102, 201, 202, 203, 205A
Sociology 10l, 102, 202, 203, 206
Women's Studies 101

Human Cultures

Western World 3
Art 198, 199, 202
English 200, 201, 204, 205, 206, 210,213, 225, 226, 227, 228
History 101, 102, 204
Humanities 195
Music 103
Political Science 203
Theater 201

American 3
History 201, 202, 207, 211, 220
Political Science 111, 205, 220

International 3

If the credit hours from American Cultures and Social Relationships total less than 8 credits, the choices are:

Anthropology 103, 110
Geography 102C, 105
Political Science 202, 210, 211

If the credit hours from American Cultures and Social Relationships total 8 credits or more, then other options are:

English 207, 211, 218
French 101, 102, 201, 202
German 101, 102, 201, 202
History 210
Philosophy 203, 210
Spanish 101, 102, 201, 202

Physical Education 2

One credit hour from: PEA 101A, 103, 104A, 118, or 201 and one PEA/DNC credit hour of choice.

MINIMUM GENERAL ED. CREDITS 34

Electives

Electives are courses a student chooses, in addition to the other degree requirements, based on the anticipated major and the transfer school the student will be attending. Electives should be chosen carefully, with the advice of a counselor, who will provide a student with a curriculum guide which lists specific courses the four-year school wants students to take at the community college level.

NOTE: Some four-year colleges and universities require a second year proficiency in foreign language. Some graduate school admissions committees prefer candidates with a foreign language background. If you think you might one day seek admission to a graduate program you should consider studying a foreign language at Muskegon Community College.

To meet the College's technology goals, students are strongly recommended to complete CIS 110, 120A, or 129. For student numbers A04000 and above, a maximum of four credit hours of the following will count toward graduation: ENG 085, 089, 091; RDG 040A, 040C, 040E; MATH 035 modules, 036A, 040, 041.

If you are uncertain about your major, the College recommends that you complete your ***General Education Requirements*** *first. All students, whether majoring in English or engineering, must complete the general education requirements.*

Minimum Electives 28

Minimum Total 62

MACRAO AGREEMENT

MACRAO (Michigan Association of Collegiate Registrars and Admissions Officers) agreement:

Students who complete the general education requirements for the Associate in Science and Arts degree will receive the MACRAO stamp on their transcript which makes transferring to many Michigan colleges and universities easier. Colleges and universities who are a part of this agreement will exempt transfer students from their freshman-level general education requirements if the student has met the general education requirements at Muskegon Community College. The agreement does not cover elective courses. Some colleges and universities have limitations and provisos; all students should consult with a counselor regarding the four-year college of their choice.

In special cases, it may be in the best interest of a student to take courses at Muskegon Community College which result in receiving the MACRAO stamp but do not meet the requirements for the Associate in Science and Arts degree. All students should consult with a counselor.

FOREIGN LANGUAGE

Some four-year colleges and universities require a second-year proficiency in a foreign language. Some graduate school admissions committees prefer candidates with a foreign language background. Students who think they might one day seek admission to a graduate program should consider studying a foreign language at Muskegon Community College.

TRANSFER CURRICULUM GUIDES

Curriculum guides tell you what courses to take at Muskegon Community College before transferring to a senior college. There are curriculum guides available for the most popular majors and transfer schools. For example, if you want to study education and transfer to Grand Valley State University, there is a curriculum guide which tells you which courses Grand Valley State University wants you to take at MCC before transferring. The guides are prepared jointly by our counselors and the admissions offices at the transfer colleges, and are available in the Counseling and Advising Center in room 101, or online at www.muskegoncc.edu under Future or Current Students. It is important to meet with an MCC counselor.

ASSOCIATE IN SCIENCE AND ARTS -- CRIMINAL JUSTICE CORRECTIONS

GENERAL EDUCATION REQUIREMENTS

A minimum of 34 credits of General Education requirements must be fulfilled. Please refer to previous Associates in Science and Arts degree information for specific course numbers and information.

Communication 6
Science/Math 8
The Human Experience
Aesthetic Values 3
Ethics and Logic 3
Social Relationships 3
Human Cultures
Western World 3
American 3
International 3
Physical Education
PEA and PEA/DNC 2
Minimum 34

CRIMINAL JUSTICE REQUIREMENTS	**CR. HRS.**
CJ 101 Intro to Law Enforcement	3
CJ 102 Police Administration I	3
CJ 104 Criminology	3
CJ 109 Crime Prevention and Juvenile Delinquency	3
CJ 201 Criminal Law	3
	15

REQUIRED ELECTIVES: (Choose three courses from the following)

CJ 250 Introduction to Corrections	3
CJ 251A Legal Issues in Corrections	3
CJ 252A Correctional Institutions/Facilities	3
CJ 257 Client Relations in Corrections	3
CJ 258A Client Growth and Development	3
	Minimum 9

SUGGESTED ELECTIVES

CJ 110 Defensive Tactics	2
CJ 112 Emergency Vehicle Operations	1
CJ 120 Firearms Certification	2
CJ 122 The Police Patrol Function	3
CJ 123 Traffic Enforcement	3
CJ 130 Tactical Communication	3
CJ 193 HAZ-MAT Communications	1
CJ 202 Police Administration II	3
CJ 204 Criminal Investigations	3
CJ 205 Interrogation and Case Preparation	3
CJ 206 Evidence and Criminal Procedure	3
CJ 207 Police and Community Relations	3
CJ 208 Police Science Laboratory I	3
CJ 298 Instructor Skill Development	3
	Minimum 4
	Total 62

ASSOCIATE IN SCIENCE AND ARTS -- CRIMINAL JUSTICE LAW ENFORCEMENT

GENERAL EDUCATION REQUIREMENTS

A minimum of 34 credits of General Education requirements must be fulfilled. Please refer to previous Associates in Science and Arts degree information for specific course numbers and information.

Communication 6
Science/Math 8
The Human Experience
- Aesthetic Values 3
- Ethics and Logic 3
- Social Relationships 3

Human Cultures
- Western World 3
- American 3
- International 3

Physical Education
- PEA and PEA/DNC 2

Minimum 34

CRIMINAL JUSTICE REQUIREMENTS	**CR. HRS.**
CJ 101 Intro to Law Enforcement	3
CJ 102 Police Administration I	3
CJ 104 Criminology	3
CJ 109 Crime Prevention and Juvenile Delinquency	3
CJ 201 Criminal Law	3
	15

REQUIRED ELECTIVES: (Choose three courses from the following)

CJ 202 Police Administration II	3
CJ 204 Criminal Investigations	3
CJ 205 Interrogation and Case Preparation	3
CJ 206 Evidence and Criminal Procedure	3
CJ 207 Police and Community Relations	3
CJ 208 Police Science Laboratory I	3
	Minimum 9

SUGGESTED ELECTIVES

CJ 110 Defensive Tactics	2
CJ 112 Emergency Vehicle Operations	1
CJ 120 Firearms Certification	2
CJ 122 The Police Patrol Function	3
CJ 123 Traffic Enforcement	3
CJ 130 Tactical Communication	3
CJ 193 HAZ-MAT Communications	1
CJ 250 Introduction to Corrections	3
CJ 251A Legal Issues in Corrections	3
CJ 252A Correctional Institutions/Facilities	3
CJ 257 Client Relations in Corrections	3
CJ 258A Client Growth and Development	3
CJ 298 Instructor Skill Development	3
	Minimum 4

Total 62

ASSOCIATE IN SCIENCE AND ARTS - EARLY CHILDHOOD EDUCATION

This degree is intended for students who would like to work in a pre-kindergarten setting, such as a Head Start program. Please note it does not lead to a teaching certificate for K-12.

GENERAL EDUCATION REQUIREMENTS

A minimum of 34 credits of General Education requirements must be fulfilled. Please refer to previous Associates in Science and Arts degree information for specific course numbers and information.

Communication 6
Science/Math 8
The Human Experience
Aesthetic Values 3
Ethics and Logic 3
Social Relationships 3
Human Cultures
Western World 3
American 3
International 3
Physical Education
PEA and PEA/DNC 2

Minimum 34

EARLY CHILDHOOD EDUCATION REQUIREMENTS	**CR. HRS.**
ED 111 Introduction to the Education of Young Children	3
ED 120 Early Childhood Education	3
ED 214 Infants and Toddlers	3
ED 220A Early Childhood Assessment	2
ED 230 Children's Literature	3
ED 225 Child Development OR ED 250 Human Growth and Learning	3
	17

RECOMMENDED ELECTIVES

ED 107 Child Care: Operating a Successful Business	3
ED 109 The Parent-Child Connection	3
ED 118 Creative Curriculum for Children	3
ED 211 Behavior Management	3
ED 223 Child Care Administration	3
ED 226 Interdisciplinary Approaches to Early Interventions	3
ED 251 Health Needs of the Young Child	3
ED 210 Child Care and Guidance	3
ED 290 CI Cooperative Internship	3
	TOTAL 62

ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAMS

ASSOCIATE IN APPLIED SCIENCE -- CRIMINAL JUSTICE CORRECTIONS

GENERAL EDUCATION REQUIREMENTS	CR. HRS.
BCOM 101 Business & Technical Communications	3
BCOM 102 Advanced Business & Technical Communications	3
MATH 109 College Algebra with Applications or BUS 126 Business Math	3-4
BUS 127 Human Relations or COM 101 Oral Communications	3
Select one of the following: PHIL 205 Business Ethics, PSCI 111 Intro. to American Government, PSCI 211 Comparative World Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
CIS 110 Computer Concepts or CIS 120A Introduction to Computer Information Systems	3
PEA/DNC Physical Education and/or Dance (Required: One credit hour from PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit of choice	2
	Total 20-22

CRIMINAL JUSTICE REQUIREMENTS (15 Credit Hours)	
CJ 101 Intro to Law Enforcement	3
CJ 102 Police Administration I	3
CJ 104 Criminology	3
CJ 109 Crime Prevention and Juvenile Delinquency	3
CJ 201 Criminal Law	3

CORRECTIONS REQUIREMENTS (15 Credit Hours)	
CJ 250 Introduction to Corrections	3
CJ 251A Legal Issues in Corrections	3
CJ 252A Correctional Institutions/Facilities	3
CJ 257 Client Relations in Corrections	3
CJ 258A Client Growth and Development	3

SUGGESTED ELECTIVES (Minimum 10-12 Credit Hours)	
CJ 110 Defensive Tactics	2
CJ 112 Emergency Vehicle Operations	1
CJ 120 Firearms Certification	2
CJ 122 The Police Patrol Function	3
CJ 123 Traffic Enforcement	3
CJ 130 Tactical Communication	3
CJ 193 HAZ-MAT Communications	1
CJ 202 Police Administration II	3
CJ 204 Criminal Investigations	3
CJ 205 Interrogation and Case Preparation	3
CJ 206 Evidence and Criminal Procedure	3
CJ 207 Police and Community Relations	3
CJ 208 Police Science Laboratory I	3
CJ 298 Instructor Skill Development	3
	Total 62

ASSOCIATE IN APPLIED SCIENCE -- CRIMINAL JUSTICE LAW ENFORCEMENT

GENERAL EDUCATION REQUIREMENTS **CR. HRS.**

BCOM 101 Business & Technical Communications 3
BCOM 102 Advanced Business & Technical Communications 3
MATH 109 College Algebra with Applications or BUS 126 Business Math 3-4
BUS 127 Human Relations or COM 101 Oral Communications 3
Select one of the following:
PHIL 205 Business Ethics, PSCI 111 Intro. to American Government, PSCI 211 Comparative World Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
CIS 110 Computer Concepts or CIS 120A Introduction to Computer Information Systems 3
PEA/DNC Physical Education and/or Dance (Required: One credit hour from PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit of choice 2

Total 20-22

CRIMINAL JUSTICE REQUIREMENTS (15 Credit Hours)

CJ 101 Intro to Law Enforcement 3
CJ 102 Police Administration I 3
CJ 104 Criminology 3
CJ 109 Crime Prevention and Juvenile Delinquency 3
CJ 201 Criminal Law 3

LAW ENFORCEMENT REQUIREMENTS (15 Credit Hours)

CJ 202 Police Administration II 3
CJ 204 Criminal Investigations 3
CJ 205 Interrogation and Case Preparation 3
CJ 206 Evidence and Criminal Procedure 3
CJ 207 Police and Community Relations 3

SUGGESTED ELECTIVES (Minimum 10-12 Credit Hours)

CJ 110 Defensive Tactics 2
CJ 112 Emergency Vehicle Operations 1
CJ 120 Firearms Certification 2
CJ 122 The Police Patrol Function 3
CJ 123 Traffic Enforcement 3
CJ 130 Tactical Communication 3
CJ 193 HAZ-MAT Communications 1
CJ 208 Police Science Laboratory I 3
CJ 250 Introduction to Corrections 3
CJ 251A Legal Issues in Corrections 3
CJ 252A Correctional Institutions/Facilities 3
CJ 257 Client Relations in Corrections 3
CJ 258A Client Growth and Development 3
CJ 298 Instructor Skill Development 3

Total 62

CORRECTIONS OFFICER PROFESSIONAL DEVELOPMENT CREDITS

Since October 1, 1987 ALL Michigan State Corrections Officers hired are required to have 15 semester or 23 quarter college credit hours earned through one of the following options:

OPTION I.

Five (5) specific corrections courses as determined by the Michigan Correctional Officer's Training Council.

OPTION I - M.C.C. CORRECTIONS PROGRAM	**CR. HRS.**
CJ 250 Introduction to Corrections	3
CJ 251A Legal Issues in Corrections	3
CJ 252A Correctional Institutions/Facilities	3
CJ 257 Client Relations in Corrections	3
CJ 258A Client Growth and Development	3
	Total 15

Students completing Option I will receive an MCC Certificate in Corrections. Please contact the Academic Affairs Office for your certificate.

OPTION II.

Fifteen credits in the following areas: Corrections, Criminal Justice, Guidance and Counseling, Educational Psychology, Family Relations, Psychology, Sociology. Each course must be passed with a minimum "C" grade (2.0 G.P.A.).

OPTION III.

A.S.A. degree in Criminal Justice is recommended. Program should include the five (5) Corrections courses listed in Option I. Each corrections course must be passed with a minimum "C" grade (2.0 G.P.A.).

ALLIED HEALTH PROGRAMS (Degrees, Certificates, & Diplomas)

Admission to the College does not guarantee admission to all programs within the College. Students wishing to enter the Nursing or Respiratory Therapy programs must submit an additional application. These may be obtained in Room 100.

NURSING

Practical Nurse
Graduate Nurse with an A.A.S. or A.S.A. Degree

RESPIRATORY THERAPY

Respiratory Therapist - A.A.S. Degree

Continued on next page.

INDIVIDUAL HEALTH RELATED COURSES

AH 101 Medical Terminology
AH 102 Basic Patient Care Skills
AH 104 Medical Insurance Billing
AH 105 Introduction to EKG
AH/ED 251 Health Needs of the Young Child
ELTR 212 Medical Instrumentation & Measurement
PHIL 204 Biomedical Ethics
HE 100A Community First Aid and Safety
HE 102 Nutrition for Fitness and Sport
HE 202A Sports Injuries and Prevention
PEA 101A Fitness, Wellness, and Nutrition

NOTE: See also details on the Office System Education - A.A.S. Medical degree, Medical Clerk certificate, and Medical Voice Transcription Professional Development programs.

NURSING

MISSION: *The Muskegon Community College Nursing Program is a ladder Associate Degree Nursing Program providing a foundation for lifelong Nursing Education. The Muskegon Community College Nursing Program is committed to partnerships with local community healthcare agencies and University partners to meet the intellectual, technical, and professional needs of a 21st century nursing workforce. The Muskegon Community College Nursing Program is committed to supporting student success, encouraging diversity, and stimulating intellectual curiosity, critical thinking, and the professional ethics and accountability necessary for persons to function as professional nurses and effective healthcare employees.*

The Muskegon Community College Nursing Program offers a career ladder-nursing curriculum with three educational tracks. Students who choose to exit from the Program after completion of the first four terms of the curriculum will receive a Practical Nurse Diploma and will be eligible to write the National Council Licensure Examination for Practical Nurses (NCLEX-PN) to practice as a Licensed Practical Nurse (LPN). Students who choose to exit from the Program after completion of the first six terms of the curriculum will receive an Associate in Applied Science (A.A.S.) Degree. The A.A.S. Degree is primarily an occupationally oriented degree. Students who choose to exit from the Program after completion of all seven terms of the curriculum will receive an Associate in Science and Arts (A.S.A.) Degree. The A.S.A. Degree is primarily a transfer degree which enables students to transfer to baccalaureate degree-granting institutions with advanced standing.

Students who receive the A.A.S. or A.S.A. Degree will be eligible to write the National Council Licensure Examination (NCLEX-RN) for licensure to practice as a Registered Nurse (RN). The curriculum in each of the educational tracks includes courses in the natural, behavioral and social sciences, and nursing. The nursing courses provide for concurrent theory presentation and clinical practice. Clinical practice takes place in the three major community hospitals and other selected community health care settings.

Licensed Practical Nurses and other individuals with prior nursing education are afforded the opportunity to enter into the curriculum with advanced placement. Students seeking an Associate Degree in Nursing (ADN) who have previously obtained the LPN or LVN licensure must possess an unencumbered license and current work experience. Obtain additional information in Room 100 or call 231.777.0266.

ADMISSION

General Information

To better enable individuals to validate the course competencies required for admission into the Muskegon Community College Nursing Program, and to enhance their chance for success, the following high school educational preparation is recommended:

Biology	1 unit	Algebra	2 units
Chemistry	1 unit	English	3-4 units
General Math	1 unit	Computer	1/2 unit

Counseling services are available to assist students in career and educational planning. Prospective students are strongly advised to make an appointment in the Counseling office (Room 100, 231.777.0362).

Individuals interested in pursuing admission are advised to make early application as spaces are limited. When applicants complete the entry level requirements they are placed on a ready list and admitted on a first-come, first-served basis.

One hundred (100) spaces will be available for generic admission applicants each year. Students who are notified of admission may defer admission twice without losing their placement on the ready list. However, the student must enter on the third notification or be removed from the ready list and complete a new application. All requirements for coursework will be reactivated including the need to revalidate any coursework over eight years old.

Spaces vacated by generic students exiting from the program upon completion of Level I will be available for NUR 212A advanced placement applicants each Fall and Winter.

Spaces vacated through attrition will be available for applicants eligible for advanced placement into any nursing course. Students must demonstrate continued competency in previously learned nursing courses for readmission.

If the number of ready applicants exceeds the number of spaces available, the applicants with the earliest ready dates will be admitted.

Any applicants remaining, after the spaces available are filled, will be placed on the ready list for the next admission date.

Applicants on the ready list are encouraged to take the required non-nursing courses.

ENTRY APPLICATION REQUIREMENT CHECKLIST -- LEVEL I

Academic prerequisites and requirements for admission to the Nursing Program are outlined below. Program Admission is based on a first come, first served basis; once the requirements have been met, the applicant will be placed on the "Ready List." **It is the responsibility of each student to notify the Records Office of an address, name, and/or phone number change(s). The College will not be responsible for any incident arising from the student's failure to update this information.**

Students with questions regarding this checklist should be directed to one of the Counselors in the Counseling and Advising Center, Room 101. Once the **Requirement Checklist** is complete, students should schedule an appointment with an MCC Counselor to review the checklist and receive the Nursing Program Application. To schedule an appointment, call 231.777.0362 or stop in the Counseling and Advising Center in Room 101.

The following items MUST be completed to be placed on the "Ready List." If testing/coursework is over eight years old, competency must be validated on established examinations or by repeating the course.

Applications

- Complete a Muskegon Community College Application with Enrollment Services, Room 100.
- Schedule an appointment with an MCC Counselor, Room 101 or call 231.777.0362, to develop a course plan. You will receive your nursing application from the counselor when you meet the requirements for admission.

Transcript Evaluation

- If you have attended other colleges, request official transcripts be sent from their records office to the MCC Records Office, Attn: Chris Nowak. Transfer credit will be given only for equivalent courses in which a "C" (2.0) or above was achieved.
- Provide proof of high school completion or GED by submitting a copy of official transcript or GED certificate to the Enrollment Services Office, Room 100. (Official transcript of high school diploma/GED is required regardless of college level work.)

Meet Entry Level Competencies:

College Success Skills Competency: Readiness to Succeed

Complete one of the following:

- Complete CSS 100 College Success Seminar, (2 credits) with a "C" (2.0) or above.
- Obtain a waiver from a counselor if at least 30 college credits of 100 level courses or higher have been completed with a "C" (2.0) or above.

Computer Literacy Skills Competency

Complete one of the following:

- Pass the Computer Literacy Test with an 80% or better.
- Complete CIS 100 Introduction to Personal Computers; or CIS 110 Computer Concepts; or CIS120A Introduction to Computer Information Systems with a "C" (2.0) or above.
- Transfer a course in from another college that is equivalent to CIS 100 Introduction to Personal Computers; CIS 110 Computer Concepts; or CIS120A Introduction to Computer Information Systems, with a "C" (2.0) or above.

Math Skills Competency

Complete one of the following:

- Test out of MATH 035 modules A / B / C / D / E / F / G Basic Math Skills on the math placement tests.
- Complete MATH 036A Basic Math and Pre-Algebra, with "C" (2.0) or above.
- Transfer courses in from another college that are equivalent to MATH 036A Basic Math and Pre-Algebra.
- Score 44 or better on the COMPASS Pre-algebra Test AND pass the MATH 035F Metric Test Module F.

Reading Skills Competency

Complete one of the following:

- Score 22 or above on ACT (composite score).
- Score 81 or higher on the COMPASS Reading Test.

Writing Skills Competency

Complete one of the following:

- Score 1 or 2 in both Reading and Writing on MEAP.
- Score 22 or above on ACT (composite score).
- Score 80 or higher on COMPASS Writing Test.
- Complete ENG 091 Introduction to English Composition, or ENG 101 English Composition, with a "C" (2.0) or above.
- Transfer a course in from another college that is equivalent to ENG 091 Introduction to English Composition, or ENG 101 English Composition, with a "C" (2.0) or above.

Maintain Overall GPA of 2.0

- Muskegon Community College cumulative GPA must be at least a "C" (2.0) GPA.

ADVANCED PLACEMENT APPLICATION REQUIREMENT CHECKLIST -- LEVEL II

Academic prerequisites and requirements for admission to the Nursing Program are outlined below. Program Admission is based on a first come, first served basis; once the requirements have been met, the applicant will be placed on the "Advanced Placement Ready List." It is the responsibility of each student to notify the Records Office of an address, name, and/or phone number change(s). The College will not be responsible for any incident arising from the student's failure to update this information.

Students with questions regarding this checklist are directed to one of the Nursing Counselors in the Counseling and Advising Center, Room 101. To schedule an appointment, call 231.777.0362 or stop in the Counseling and Advising Center in Room 101.

The following items MUST be completed to be placed on the "Advanced Placement Ready List." If testing/coursework is over eight years old, competency must be validated on established examinations or by repeating the course.

Applications

- Complete a Muskegon Community College Application with Enrollment Services, Room 100.
- Schedule an appointment with an MCC Counselor, Room 101 or call 231.777.0362 to develop a course plan and obtain a Nursing Program Application.

Transcript Evaluation

- If you have attended other colleges, request official transcripts be sent from their records office to the MCC Records Office. Transfer credit will be given only for equivalent courses in which a "C" (2.0) or above was achieved.
- Provide proof of high school completion or GED by submitting a copy of official transcript or GED certificate to the Enrollment Services Office, Room 100. (Official transcript of high school diploma/GED is required regardless of college level work.)

Meet Entry Level Competencies

Please see the Entry Requirement Checklist – Level I for the course enrollment options for the following competencies:

- College Success Skills
- Computer Literacy Skills
- Reading Skills
- Writing Skills
- Math skills

Meet Additional Chemistry Competencies

Complete one of the following:

- Complete 1 year of high school chemistry with a "C" (2.0) or better within the past 8 years.
- Pass the Toledo Chemistry Competency Examination in the MCC Testing Center.
- Complete CHEM 100 and CHEM 100A Fundamentals of Chemistry with a "C" (2.0) or better (prerequisite of MATH 40, Beginning Algebra, and MATH 50, Intermediate Algebra).
- Complete CHEM 109 and CHEM 109A Chemistry for Health Science with a "C" (2.0) or better (prerequisite of MATH 40, Beginning Algebra, and MATH 41, Mathematics for Allied Health Sciences).

Meet All of the Level I General Education Requirements for the Degree with a "C" (2.0) or Above

- BIOL 105 Anatomy and Physiology I or equivalent
- COM 100 Principles of Communication or equivalent
- PEA 101A Fitness Wellness and Nutrition or equivalent
- PSYC 201 General Psychology or equivalent
- ENG 101 English Composition or equivalent and score 81 or higher on the COMPASS Reading Test (see above)
- BIOL 106 Anatomy and Physiology II or equivalent
- PHIL 204 Biomedical Ethics, or equivalent
- PEA/DNC elective

License/Work Experience

Complete one of the following:

- Submit evidence of current unencumbered Michigan LPN license and evidence of a minimum of 6 months full-time (or equivalent) current work experience in the LPN role.
- Satisfactory completion of the Muskegon Community College Practical Nurse Diploma within the previous 12 months.

Maintain Overall GPA of 2.0

- Muskegon Community College cumulative GPA must be at least a "C" (2.0) GPA.

ACCEPTANCE OF COURSE CREDIT

Credits for courses completed at Muskegon Community College or other post-secondary eductional institutions will be accepted toward fulfillment of the nursing (PN and AAS) curriculum requirements provided that all of the following criteria are met:

- The courses are deemed equivalent to the courses required in the nursing curriculum.
- The courses were completed with a minimum grade of "C" (2.0).
- The courses were completed within eight years prior to ready date.

Official transcripts from institutions other than Muskegon Community College should be sent to the Records Auditor for credit evaluation (Room 104, 777.0204).

PROGRESSION AND RETENTION

To progress, students in the Muskegon Community College Nursing Program must attain a minimum grade of C (2.0) in each course in each term of the Nursing curriculum. All courses must be completed in sequence. Students failing to meet this progression requirement will be dismissed.

READMISSION

Students may apply for readmission providing they meet all general education and course competency requirements and have not repeated a nursing course more than once. When readmission requirements have been met, the student will be readmitted according to availability of space in the program. Failure to attain a passing grade in a repeated nursing course will render students ineligible for readmission.

GRADUATION

To be eligible for graduation from the nursing program, students must meet all of the following requirements:

1. Complete the nursing curriculum requirements for the diploma/degree with a minimum grade point of "C" (2.0) in each course.
2. Complete not less than 30 hours or the last 15 hours required in the nursing curriculum at Muskegon Community College.
3. File application for a graduation audit in the College Records Office no later than 90 days prior to the end of the term of anticipated graduation.

HEALTH STATUS EVALUATION

Students in the Muskegon Community College Nursing Program are required to have a health status evaluation done prior to beginning the first clinical nursing course. Each newly admitted student will be scheduled for the health status evaluation, including drug screens, TB, immunization status, and latex sensitivity screening. A health status evaluation fee will be assessed upon registration for selected nursing courses. Students are required to maintain health requirements throughout the program.

CRIMINAL BACKGROUND CHECK

Students are required by Michigan law to pass a criminal background check ensuring no felony history for the past 15 years and no history of misdemeanors including domestic violence, abuse, neglect, fraud, theft, or assault and battery within the past 10 years. Any student with a history of substance abuse or criminal conviction related to illegal drugs may be ineligible for nursing licensure. Any student who has not resided in Michigan for at least three or more years preceding application for admission to the Nursing Program is required to obtain an FBI fingerprint check. The student is responsible for the cost of the FBI check.

NURSING PROGRAM APPROVAL

The Muskegon Community College Nursing Program is approved by the Michigan Board of Nursing to provide a program of nursing education leading to the diploma in Practical Nursing and an Associate Degree in Nursing.

Nursing Career Ladder - Curriculum Design

ASSOCIATE IN SCIENCE AND ARTS DEGREE

Level II (RN) — Term 7, 15 weeks

	ENG.	102	English Composition	3 Cr.
			Western World Cultures Group	3 Cr.
			American Culture Elective	3 Cr.
			Aesthetic Values Elective	3 Cr.

If Chemistry competency is validated by examination, another Science/ mathematics elective is required to fulfill the requirements of the ASA Degree.

Total 84 Credits (Transfer Degree)

ASSOCIATE IN APPLIED SCIENCE DEGREE

Level II (RN) — Term 6, 15 weeks

	NUR	222A	Managing the Care of the Family	5 Cr.
	NUR	211A	Care of the Family in Psychological Crisis	4 Cr.
	ANTH	103	Cultural Diversity in Contemporary Society	3 Cr.

Level II (RN) — Term 5, 15 weeks

	NUR	212B	Care of the Family in Physiological Crisis	8 Cr.
	BIOL	207	Microbiology	3 Cr.
			Coreq: BIOL 207A Lab (Prereq: BIOL 105)	1 Cr.

Total 72 Credits (43 NUR/29 Non-NUR)

PRACTICAL NURSE DIPLOMA

Level I (LPN) — Term 4, 15 weeks

	NUR	141B	Care of the Maturing Family	8 Cr.
*	PHIL	204	Biomedical Ethics	3 Cr.
*	PEA/DNC		PE Activity or Dance Elective	1 Cr.

Level I (LPN) — Term 3, 15 weeks

	NUR	131B	Care of the Childrearing Family	8 Cr.
*	BIOL	106	Anatomy & Physiology II (Prereq: BIOL 105)	4 Cr.

Level I (LPN) — Term 2, 15 weeks

	NUR	125	Basic Physical Assessment	1 Cr.
	NUR	124A	Care of the Childbearing Family	4 Cr.
	NUR	123A	Intro. to Nursing Practice	3 Cr.
	NUR	121	Env. Stressors and Pharmacotherapeutics	1 Cr.
*	ENG	101	English Composition	3 Cr.

Total 37 Credits (26 NUR/11 Non-NUR)

Level I (LPN) — Term 1, 15 weeks

	NUR	100	Overview of the Nursing Profession	1 Cr.
	AH	111	Env. Stressors and Nutrition	1 Cr.
	BIOL	105	Anatomy & Physiology I	4 Cr.
	COM	100	Principles of Communication	1 Cr.
	PEA	101A	Fitness, Wellness & Nutrition	1 Cr.
	PSYC	201	General Psychology	4 Cr.

ENTRY LEVEL COMPETENCIES

Entry Level

GRADE	10	Reading Level
ENG	091	Intro. to English Composition
CIS	100	Intro. to Personal Computers
CSS	100	College Success Seminar (or waiver)
MATH	035 or 036	Basic Mathematics

* Validate one year of high school chemistry competency by passing the Toledo Chemistry Placement Test or complete CHEM 100/100A Fundamentals of Chemistry with a minimum grade of a C (2.0) or complete CHEM 109/109A Chemistry for Health Science with a minimum grade of a C (2.0).

* Indicates course is optional for individuals exiting upon completion of PN Level; must be completed prior to Term 5 if pursuing AAS or ASA degree.

If testing/coursework is over eight years old, competency must be validated on established examinations or by repeating the course.

Courses in the Nursing Curriculum indicated by NUR or AH must be completed in sequence beginning with Term 1. Other non-nursing courses may be completed prior to entry into the Nursing sequence. Please see your advisor.

RESPIRATORY THERAPY

Muskegon Community College currently offers students the Therapist level of instruction. The therapist student, after successfully completing more than two years of instruction, receives the Associate in Applied Science Degree (AAS).

Applicants must show proficiency in the following: Score 1 or 2 in both the Reading and Writing on MEAP or score 22 or above on ACT (composite score) or score 80 on COMPASS writing test or complete ENG 091 Introduction to English Composition, or ENG 101 English Composition with a "C" (2.) or above or transfer a course in from another college that is equivalent to ENG 091 Introduction to English Composition or ENG 101 English Composition with a "C" (2.0) or above. Score 46 or better on the COMPASS Algebra Test or transfer courses from another college that are equivalent to MATH 040 Beginning Algebra or above. Validate one year of high school chemistry competency on the Toledo Chemistry Placement Test (60% or above) or complete CHEM 100 and 100A with a minimum grade of "C" (2.0) or complete CHEM 109 and 109A (or equivalent) with a minimum grade of "C" (2.0). Student must pass a criminal background check.

POTENTIAL RT STUDENTS MUST CONTACT THE RESPIRATORY THERAPY DEPARTMENT, EVEN IF YOU HAVE APPLIED TO THE COLLEGE. (Room 231-1 or call 231.777.0223.)

2 1/2 YEAR PROGRAM -- A.A.S. DEGREE

YEAR 1

Semester 1 (Fall) (Sept. - Dec.)	**CR. HRS.**
AH 102 Basic Patient Care Skills	3
RT 101 Respiratory Therapy Physics	1
BIOL 105 Anatomy & Physiology I L&L	4
MATH 050 Intermediate Algebra OR MATH 041 Mathematics for Allied Health Sciences	4
Semester 2 (Winter) (Jan. - Feb.)	
CHEM 100 Fundamentals of Chemistry L&L OR CHEM 109 Chemistry for Health Science L&L	5
RT 110 Equipment & Procedures I	3
RT 111 Introduction to Respiratory Therapy	3
(Mar. - Apr.)	
CHEM 100 or 109 L&L (continued)	
RT 120 Equipment & Procedures II	3
RT 121 Pharmacology	2
RT 122 Clinical I	2
Semester 3 (Summer) (May - June)	
RT 130 Equip ..... ment & Procedures III	3
RT 131 Physiology	3
RT 132 Clinical II	3
RT 134 Intro to Mechanical Ventilation	1

YEAR 2

Semester 4 (Fall) (Sept. - Dec.)	**CR. HRS.**
RT 141 Pulmonary Pathophysiology	2
RT 144 Adult Mechanical Ventilation	3
RT 152 Clinical IV	5
(Nov. - Dec.)	
RT 162 Clinical V	7
Semester 5 (Winter) (Jan. - Apr.)	
BIOL 106 Anatomy & Physiology II L&L	4
RT 210 Cardiovascular & Renal Physiology	4
RT 220C Pediatric-Neonatal Critical Care	4
PHIL 204 Biomedical Ethics	3
PEA/DNC *see below	2
Semester 6 (Summer) (May - June)	
BUS 122 Principles of Management	3
RT 212 Advanced Clinical Practicum I	3
PSYC 201 General Psychology	4
PSCI 111 or HIST 201 or HIST 202**see below	3-4
Semester 7 (Fall) (Sept. - Dec.)	
RT 222A Clinical Rotation VII	3
RT 230B Pulmonary Diagnostics & Rehabilitation	2
RT 240 Health Care Environment	1
BIOL 207 Microbiology L&L	4
ENG 101 English Composition	3
TOTAL	**100-101**

* PEA/DNC – one credit hour from PEA 101A, 103, 104A, 118 or 201 required, and one PEA/DNC credit hour of choice.

**PSCI III Intro to Government (4 cr.) or HIST 201 US to 1877 (3 cr.) or HIST 202 US from Reconstruction to Present (3 cr.).

NOTE: AH 101 Medical Terminology is not required, but is highly recommended prior to entry into the Respiratory Therapy Program.

Respiratory Care

Respiratory Therapists work as part of the health care team in hospitals, cardiopulmonary diagnostic laboratories, rehabilitation centers, home care agencies. They work with physicians and other health professionals in health care planning, evaluation, and treatment of patients with cardiac and pulmonary disorders.

As clinicians they perform therapeutic and life support procedures including the administration of oxygen and aerosolized medications, breathing treatments, chest physical therapy and mechanical ventilator support. In addition, they perform diagnostic tests that assess cardiac and lung function and operate physiologic monitoring equipment and life support systems in the critical care setting.

The Respiratory Care Program is a 28 month associate degree program which began January, 1980. It is fully accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The curriculum design offers the student the Associate in Applied Science Degree (AAS). The AAS Degree is an occupationally oriented degree. By taking additional coursework, the student may obtain an ASA Degree. The ASA Degree is a transfer degree which enables students to transfer to baccalaureate degree-granting institutions with advanced standing. Students who receive the AAS or ASA Degree will be eligible to write the National Board for Respiratory Care Entry-Level CRT Examination for licensure to practice as a Certified Respiratory Therapist (CRT). Upon successful completion of the CRT examination, the graduate will be eligible to write the National Board for Respiratory Care Advanced Practitioner Examination to practice as a Registered Respiratory Therapist (RRT).

The curriculum for the program includes courses in the natural, behavioral, and social sciences, as well as respiratory care. Didactic and clinical instruction is integrated in a planned process that allows for concurrent presentation of respiratory care theory with associated clinical practice. For local students clinical practice takes place in most of the hospitals in the Western Michigan including the Grand Rapids hospitals.

Additionally, in response to the need for health professionals in Northern Michigan, the respiratory care program is providing distance education through a collaborative effort with Munson Medical Center and Northwestern Michigan College. Each member is responsible for providing a piece of the distance learning component; Muskegon Community College is the degree granting institution and provides the professional courses for the program – Munson Medical Center provides the "hands-on" clinical education required by the students and Northwestern Michigan College provides the non professional degree requirements.

ADMISSION

General Information

To better enable individuals to validate the course competencies required for admission into the Muskegon Community College Respiratory Care Program, and to enhance their chance for success, the following high school educational preparation is recommended:

- Biology: 1 unit
- Chemistry: 1 unit
- General Math: 1 unit
- Algebra: 2 units
- English: 3-4 units

Counseling services are available to assist students in career and educational planning (Room 101, or call 231.777.0362). Prospective students are strongly advised to make an appointment with the Respiratory Therapy Department (Room 231-1, or call 231.777.0223).

Individuals interested in pursuing admission are advised to make early application as spaces are limited. Thirty (30) spaces will be available for generic admission applicants each year. When applicants complete the entry level requirements they are placed on a ready list and admitted on a first-come, first-served basis. If the number of ready applicants exceeds the number of spaces available, the applicants with the earliest ready dates will be admitted. Any applicants remaining, after the available spaces are filled, will be placed on the ready list for the next admission date.

Students who are notified of admission may defer admission twice without losing their placement on the ready list. However, the student must enter on the third notification or be removed from the ready list and complete a new application.

Spaces vacated through attrition will be available for applicants eligible for advanced placement into any respiratory care course. Students must demonstrate continued competency in previously learned respiratory care courses for readmission.

Applicants on the ready list are encouraged to take the required non-respiratory therapy courses.

ENTRY LEVEL REQUIREMENTS

- Submit a completed Muskegon Community College Admission Application. (Room 100, or call 231.777.0363).
- Submit a completed Muskegon Community College Respiratory Care Program Admission Application. (Room 231-1 or call 231.777.0223).
- Submit official evidence of high school graduation or successful completion of the General Education Development (GED) tests. (Room 100, or call 231.777.0363).
- Score 1 or 2 in both the Reading and Writing on MEAP or score 22 or above on ACT (composite score) or score 80 on COMPASS Writing Test* or complete ENG 091 Introduction to English Composition, or ENG 101 English Composition, with a "C" (2.0) or above or transfer a course in from another college that is equivalent to ENG 091 Introduction to English Composition, or ENG 101 English Composition, with a "C" (2.0) or above.
- Score 46 or better on the COMPASS Algebra Test* or transfer courses in from another college that are equivalent to MATH 040 Beginning Algebra, or above.
- Validate one year of high school chemistry competency on the Toledo Chemistry Placement Test (score 60% or above)* or complete CHEM 100 Lecture & Lab (or equivalent) with a minimum grade of "C" (2.0) or complete CHEM 109 Lecture & Lab (or equivalent) with a minimum grade of "C" (2.0).
- **NOTE:** AH 101 Medical Terminology is not required, but is highly recommended prior to entry into the respiratory therapy program.
- Maintain a minimum cumulative grade point average of "C" (2.0) or better.

*Testing Center, Room 134, 231.777.0394.

ADVANCED PLACEMENT APPLICANTS

Applicants with prior post-secondary respiratory education are candidates for advanced placement admission into the Muskegon Community College Respiratory Care Program admission requirements:

- Submit a completed Muskegon Community College Admission Application, (Room 100, or call 231.777.0363)
- Submit a completed Muskegon Community College Respiratory Care Program Admission Application. (Room 231-1 or call 231.777.0223)
- Meet with the Director of Respiratory Care (Room 231-1 or call 231.777.0223).
- Meet all of the generic admission entry level requirements
- Submit official evidence of prior post-secondary respiratory care education
- Validate competency in the required respiratory care and non-respiratory care courses, up to point of placement, on established competency examinations

ACCEPTANCE OF COURSE CREDIT

Credits for courses completed at Muskegon Community College or other post-secondary educational institutions will be accepted toward fulfillment of the respiratory care curriculum requirements provided that all of the following criteria are met:

- The courses are deemed equivalent to the courses required in the respiratory care curriculum.
- The courses were completed with a minimum grade of "C" (2.0).

Official transcripts from institutions other than Muskegon Community College should be sent to the Records Auditor for credit evaluation (Room 104, or call 231.777.0204).

PROGRESSION AND RETENTION

To progress, students in the Muskegon Community College Respiratory Care Program must attain a minimum grade of "C" (2.0) in each science and respiratory care course in each Semester of the respiratory care curriculum. Students failing to meet this requirement will be dismissed. Students are strongly advised to complete all non-RT courses during, or prior to, the semester required. Failure to do so could extend the student's expected completion date.

READMISSION

Students may apply for readmission providing they meet all general education and course competency requirements and have not repeated a respiratory care course more than once. When readmission requirements have been met, the student will be readmitted according to availability of space in the program. Failure to attain a passing grade in a repeated respiratory care course will render students ineligible for readmission.

Continued on next page.

GRADUATION

To be eligible for graduation from the respiratory care program, students must meet all of the following requirements:

1. Complete the respiratory care curriculum requirements for the degree with a minimum grade point of "C" (2.0).
2. Complete not less than the last 15 credit hours required in the respiratory care curricu lum at Muskegon Community College.
3. File application for a graduation audit in the College Records Office no later than 90 days prior to the end of the term of anticipated graduation.

HEALTH STATUS EVALUATION

Students in the Muskegon Community College Respiratory Care Program are required to have a health status evaluation done prior to beginning the first clinical respiratory care course. Each newly admitted student will be scheduled for the health status evaluation, including drug screens, TB, immunization status, and latex sensitivity screening. A health status evaluation fee will be assessed upon registration for selected respiratory courses. Students are required to maintain health requirements throughout the program.

CRIMINAL BACKGROUND CHECK

Students are required by Michigan law to pass a criminal background check ensuring no felony history for the past 15 years and no history of misdemeanors including domestic violence, abuse, neglect, fraud, theft, or assault and battery within the past 10 years. Any student with a history of substance abuse or criminal conviction related to illegal drugs may be ineligible for respiratory care licensure. Any student who has not resided in Michigan for at least three or more years preceding application for admission to the Respiratory Care Program is required to obtain an FBI fingerprint check. The student is responsible for the cost of the FBI check.

BUSINESS PROGRAMS (Degrees, Certificates, & Professional Development Credits)

(Degrees and Certificates — Including Accounting, Management, Marketing, Real Estate, Office Systems Education, Criminal Justice, and Computer Information Systems)

ACCOUNTING/OFFICE MANAGEMENT – A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for students wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult a counselor.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.)	CR.HRS.
BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
MATH 109 College Algebra with Applications OR	
MATH 111 Algebra with Coordinate Geometry	3-4
BUS 127 Human Relations OR COM 101 Oral Communications	3

CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)
BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CAREER PROGRAM REQUIREMENTS (26 CR. HRS.)
BUS 102 Principles of Accounting II 4
BUS 123 Business Law I 3
CIS 101 Introduction to Electronic Spreadsheets 1
CIS 102 Intermediate Electronic Spreadsheets 1
CIS 193A Introduction to Operating Systems OR CIS 100 Introduction to Personal Computers 1
BUS 180C Introduction to Word Processing Part I 4
ECON 101 Principles of Economics 4
*BUS 103 Payroll Accounting & Business Taxes 3
*BUS 182C Office Procedures II – Document Production 2
*BUS 280C Word Processing Part II 3

RECOMMENDED ELECTIVES (4-6)
BUS 281C Office Procedures III - Desktop Publishing 3
BUS 273A Human Resource Management 3
BUS 290CI Cooperative Internship Program 3

Minimum Total 62

*Students must obtain a grade of "C" or better in each of these three classes.

MANAGEMENT – A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor.

The Management Program is a two-year curriculum focusing on Management Development and Supervision. The program is designed to develop knowledge, attitudes, experience, and leadership skills, which will enable both men and women to function in positions as supervisors or managers in business and industry.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.)	CR. HRS.
BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math or MATH 109 College Algebra with Applications	3-4
BUS 127 Human Relations OR COM 101 Oral Communications	3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice)	2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)	
BUS 101 Principles of Accounting I	4
BUS 121 Introduction to Business	3
BUS 200 International Business	3

CAREER PROGRAM REQUIREMENTS (21 CR. HRS.)	
BUS 122 Principles of Management	3
BUS 123 Business Law I	3
BUS 125 Supervision	3
BUS 127 Human Relations (if not taken as a Gen. Ed. Course)	3
BUS 222 Fundamentals of Organizational Behavior	3
BUS 260 Principles of Marketing	3
BUS 273A Human Resource Management	3

SUGGESTED ELECTIVES (9 MINIMUM CR. HRS.)	
BUS 124 Business Law II	3
BUS 161A Effective Selling	3
BUS 166 Quality Customer Service	3
BUS 274 International Studies in Human Resources	1

BUS 221 Small Business Management 3
BUS 102 Principles of Accounting II 4
BUS 105 Business Statistics 3
BUS 114 Personal Finance 3
BUS/CIS 220 E-Business 3
CIS 101 Introduction to Electronic Spreadsheets 1
CIS 120A Introduction to Computer Information Systems 3
QC 105 Quality/Productivity Using Statistical Process Control 3
BUS 290CI Cooperative Internship Program 3
Minimum Total 62

MARKETING – A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor.

The Marketing Program is a two-year curriculum focusing on Marketing Applications and Supervision. The program is designed to develop knowledge, attitudes, experience, and leadership skills, which will enable both men and women to function in positions as supervisors or managers in business and industry.

GENERAL EDUCATION REQUIREMENTS (22 CR. HRS.) **CR. HRS.**
BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math or MATH 109 College Algebra with Applications 3-4
BUS 127 Human Relations OR COM 101 Oral Communications 3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
*Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)
BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

Continued on next page.

CAREER PROGRAM REQUIREMENTS (24 CR. HRS.)

BUS 260 Principles of Marketing 3
BUS 161A Effective Selling 3
BUS 162 Principles of Retailing 3
BUS 123 Business Law I 3
BUS 127 Human Relations (if not taken as a Gen. Ed. Course) 3
BUS 263 Advertising Dynamics 3
BUS 125 Supervision OR BUS 122 Principles of Management 3
BUS 166 Quality Customer Service 3

SUGGESTED ELECTIVES (MINIMUM 6 CR. HRS.)

BUS 124 Business Law II 3
BUS 221 Small Business Management 3
BUS 102 Principles of Accounting II 4
BUS/CIS 220 E-Business 3
GR 104 Job Planning Layout and Design 3
BUS 105 Business Statistics 3
BUS 114 Personal Finance 3
CIS 120A Introduction to Computer Information Systems 3
BUS 222 Fundamentals of Organizational Behavior.....3
BUS 290CI Cooperative Internship Program 3
BUS 266 Customer Service II 3

Minimum Total 62

ENTREPRENEURSHIP PROGRAM CERTIFICATE

The purpose of the Entrepreneurship Program Certificate is to enable students to apply processes, procedures, strategies, and tactics utilized in small-business creations. Students will generate product ideas that will satisfy customer needs, utilize research strategies to determine enterprise and target market viability, implement business start-up activities, and develop a comprehensive business plan for the business opportunity. Students will implement their business plans in a second-year course.

BCOM 101 Business and Technical Communications 3
BUS 123 Business Law I 3
BUS 260 Principles of Marketing 3
BUS 166 Quality Customer Service 3
BUS 221 Small Business Management 3
CIS 100 Introduction to Personal Computers 1
BUS 290 CI Cooperative Internship Program 1-4
*BUS 297 EN Introduction to Entrepreneurship 3
*BUS 297 AE Accounting for Business Owners 3
*BUS 297 QB Quickbooks 1

*Courses Currently Under Development

CUSTOMER SERVICE SPECIALIST CERTIFICATE

BUS 127 Human Relations 3
BUS 161A Effective Selling 3
BUS 166 Quality Customer Service 3
BUS 266 Quality Customer Service II 3

This certificate is part of program leading to the Associate in Applied Science - Marketing Degree.

COMPUTER-RELATED PROGRAMS

COMPUTER APPLICATIONS - A.A.S.

The following program is for A.A.S. Degree students interested in careers which require extensive knowledge of microcomputer operations and personal productivity software. Students receiving an A.A.S. Degree in Computer Applications are expert users of word processing, electronic spreadsheet, and database software that operate on popular microcomputers. They learn to work within local-area networks and can develop new microcomputer-based applications using fourth-generation languages. This degree is not designed for students wishing to transfer to four-year institutions. Transfer-oriented students interested in working with computers should consult with a counselor.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.) CR. HRS.
BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math or MATH 109 College Algebrawith Applications 3-4
BUS 127 Human Relations OR COM 101 Oral Communication 3
CIS 110 Computer Concepts or CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)
BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

Continued on next page.

CAREER PROGRAM REQUIREMENTS (30-32 CR. HRS.)

CIS 101 Introduction to Electronic Spreadsheets	1
CIS 102 Intermediate Electronic Spreadsheets	1
CIS 109 Personal Computer Maintenance	2
CIS 115 Introduction to Word Processing	1
CIS 177 Introduction to HTML Editors	1
CIS 143 Introduction to Local Area Networks	3
CIS 153 Introduction to Database Management	1
CIS 163 Visual Basic for Applications	1
CIS 193A Introduction to Operating Systems	1
CIS 253A Database Design and Implementation	3
CIS 257 Designing Internet Applications or CIS187 Multimedia Digitizing	3
BUS179 Keyboarding	1
BUS290CI Cooperative Internship Program	3
Any programming course	3
ELECTIVES**	**5-7**
Minimum Total	**62**

**Recommended Electives: PHIL 104 Symbolic Logic or any CIS course.

COMPUTER INFORMATION SYSTEMS (CIS) PROFESSIONAL DEVELOPMENT CREDITS

MICROSOFT OFFICE SUITE	**CR. HRS.**
CIS 100 Introduction to Personal Computers	1
CIS 115WW Introduction to Word Processing, OR	
BUS 180C Introduction to Word Processing - Part I	1-4
CIS 101EW Introduction to Electronic Spreadsheets	1
CIS 119PP Introduction to Presentation Graphics	1
CIS 153AW Introduction to Database Management	1
CIS 163VB Visual Basic for Applications	1
(See Course Schedule for any prerequisites.)	**Total 6-10**

BUSINESS COMPUTER PROGRAMMING - A.A.S.

The following program is for A.A.S. Degree students interested in computer programming business career opportunities. Students receiving an A.A.S. Degree in Computer Programming Business Focus learn to work with a midrange computer environment, which is commonly used by businesses to manage manufacturing, supply, distribution, customer relations, resource planning, and e-commerce internet servers. Students become familiar with at least two programming languages. The Computer Programming A.A.S. degree is not designed for students wishing to transfer to four-year institutions. Transfer-oriented students interested in working with computers should consult with a counselor.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.) CR. HRS.

BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math OR MATH 109 College Algebra with Applications 3-4
BUS 127 Human Relations OR COM 101 Oral Communication 3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CAREER PROGRAM REQUIREMENTS (30-32 CR. HRS.)

CIS 101 Introduction to Electronic Spreadsheets 1
CIS 121 File Design and Utilities for Midrange Computers 1
CIS 131 Operations and Commands for Midrange Cmputers 1
CIS 153 Introduction to Database Management 1
CIS 170 RPG Programming 3
CIS 271 Advanced RPG Programming 3
CIS 210 Operating System Concepts 3
CIS 250 Developing Information Systems 3
CIS 251 Database Programming for Midrange Computers 3
BUS 290CI Cooperative Internship Program 3
OTHER PROGRAMMING REQUIREMENTS 6

Choose one of the sequences below:

CIS 185 C Programming and CIS 280 Java Programming
OR
CIS 130 COBOL Programming and
CIS 230 Advanced COBOL Programming
OR
CIS 160 Programming Small Computers in BASIC and
CIS 260 Advanced BASIC Programming

ELECTIVES 2-4**

Minimum Total 62

**Recommended Electives: BUS 179 Keyboarding, BUS 102 Principles of Accounting II, PHIL 104 Symbolic Logic, or any 200-level CIS course.

RPG PROGRAMMING CERTIFICATE

CIS 120A Introduction to Computer Information Systems.....3
CIS 121 File Design and Utilities for Midrange Computers.....1
CIS 131 Operations and Commands for Midrange Computers.....1
CIS 170 RPG Programming.....3
CIS 271 Advanced RPG Programming.....3
CIS 210 Operating System Concepts 3
CIS 251 Database Programming for Midrange Computers.....3
CIS 250 Developing Information Systems 3

20 Credits

C/Java COMPUTER PROGRAMMING - A.A.S

The following program is for A.A.S. Degree students interested in computer programming using procedural and object-oriented methodologies. Students receiving an A.A.S. degree in Computer Programming C/C++, Java learn the elements of the languages used for encryption algorithms, system utilities, and commercial computer applications. Students become familiar with at least two computer languages. This degree is not designed for students wishing to transfer to four-year institutions. Transfer-oriented students interested in working with computers should consult with a counselor.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.) CR. HRS.

BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math OR MATH 109 College Algebra with Applications 3-4
BUS 127 Human Relations OR COM 101 Oral Communication 3
CIS 110 Computer Concepts or CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CAREER PROGRAM REQUIREMENTS (30-32 CR. HRS.)

CIS 101 Introduction to Electronic Spreadsheets 1
CIS 102 Intermediate Electronic Spreadsheets 1
CIS 153 Introduction to Database Management 1
CIS 185 C Programming 3
CIS 280 Java Programming..... 3
CIS 210 Operating System Concepts 3
CIS 250 Developing Information Systems 3
CIS 253A Database Design and Implementation 3
BUS 290CI Cooperative Internship Program 3
OTHER PROGRAMMING REQUIREMENTS.....6

Choose one of the sequences below:

CIS 170 RPG Programming and CIS 271 Advanced RPG Programming
OR
CIS 130 COBOL Programming and
CIS 230 Advanced COBOL Programming
OR
CIS 160 Programming Small Computers in BASIC and
CIS 260 Advanced BASIC Programming

ELECTIVES 3-5**

Minimum Total 62

**Recommended Electives: BUS 179 Keyboarding, PHIL 104 Symbolic Logic, CIS 109 Personal Computer Maintenance, CIS 143 Introduction to Local Area Networks or any 200-level CIS course.

C/Java PROGRAMMING CERTIFICATE

CIS 120A Introduction to Computer Information Systems.....3
CIS 153 Introduction to Database Management.....1
CIS 185 C Programming.....3
CIS 210 Operating System Concepts 3
CIS 250 Developing Information Systems 3
CIS 253A Database Design and Implementation.....3
CIS 280 Java Programming.....3

19 Credits

COMPUTER NETWORKING TECHNOLOGY - A.A.S

The following program is for A.A.S. Degree students interested in careers which require extensive knowledge of the local and wide area networks. Students receiving an A.A.S. Degree in Computer Network Technology can create, install and maintain local area networks and are knowledgeable about the protocols and hardware used to transfer data across wide area networks. They learn to work within different network environments and use the latest networking technologies. This degree is not designed for students wishing to transfer to four-year institutions. Transfer-oriented students interested in working with computers should consult with a counselor.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.)	**CR. HRS.**
BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math or MATH 109 College Algebra with Applications	3-4
BUS 127 Human Relations OR COM 101 Oral Communication	3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice)	2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)	
BUS 101 Principles of Accounting I	4
BUS 121 Introduction to Business	3
BUS 200 International Business	3

CAREER PROGRAM REQUIREMENTS (30-32 CR. HRS.)	
CIS 109 Personal Computer Maintenance	2
CIS 143 Introduction to Local Area Networks	3
CIS 183 Networking Technologies	3
CIS 209 PC Maintenance II (A+ Certification)	3
CIS 210 Operating System Concepts	3
CIS 243 Telecommunications	3
CIS 283 Advanced Local Area Networks	3
CIS 293 Contemporary Issues In Networking Design	3
BUS 290CI Cooperative Internship Program	3
ELECTIVES**	**5-7**
	Minimum Total 62

**Recommended Electives: PHIL 104 Symbolic Logic, CIS 253A Database Design and Implementation or any 200 level CIS course.

COMPUTER NETWORKING CERTIFICATE

BCOM 101 Business and Technical Communications 3
BUS 121 Introduction to Business 3
CIS 109 Personal Computer Maintenance 2
CIS 120A Introduction to Computer Information Systems 3
CIS 143 Introduction to Local Area Networks 3
CIS 183 Networking Technologies 3
CIS 209 Personal Computer Maintenance II 3
CIS 210 Operating Systems Concepts 3
CIS 243 Telecommunications 3
CIS 283 Advanced Local Area Networking 3
CIS 293 Contemporary Issues in Networking Design 3
Total 32

E-BUSINESS – A.A.S.

The following program is for A.A.S. Degree students interested in careers which require extensive knowledge of the Internet. Students receiving an A.A.S. Degree in E-Business can create Web pages, install and maintain Web servers and are knowledgeable about the protocols and hardware used to transfer data across the Internet. They learn to work within wide-area networks and can develop new Web sites using HTML coding. This degree is not designed for students wishing to transfer to four-year institutions. Transfer-oriented students interested in working with computers should consult with a counselor.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.)	**CR. HRS.**
BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math or MATH 109 College Algebra With Applications	3-4
BUS 127 Human Relations OR COM 101 Oral Communication	3
CIS 110 Computer Concepts or CIS 120A Introduction to Computer Information Systems	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice)	2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)	
BUS 101 Principles of Accounting I	4
BUS 121 Introduction to Business	3
BUS 200 International Business	3

CAREER PROGRAM REQUIREMENTS (30-32 CR. HRS.)	
GRD 120 Introduction to Design	3
CIS 153 Introduction to Database Management	1
One of the following computer programming courses:	3
• CIS 160 Programming Small Computers in BASIC (using Visual Basic)	
• CIS 185 C Programming	
CIS 193A Introduction to Operating Systems	1
CIS 187 Multimedia Digitizing	3
CIS 253A Database Design and Implementation	3
CIS 257 Designing Internet Applications (using HTML)	3
BUS 290CI Cooperative Internship Program	3
CIS 277 Internet Site Administration	3
CIS 220/BUS 220 E-Business	3
ELECTIVES**	**4-6**
	Minimum Total 62

**Recommended Electives: CIS 177, CIS 183, CIS 210, CIS 250, or a 200-level programming class

Web Design Certificate (25 CR. HRS.)

GRD 120 Introduction to Graphic Design 3
GRD 167/CIS 167 Introduction to Internet Animation.....1
GR 160 Digital Imaging 3
CIS 120A Introduction to Computer Information Systems.....3
CIS 177 Introduction to HTML Editors.....1
CIS 193A Introduction to Operating Systems.....1
CIS 217 Introduction to Java Script Programming.....1
CIS 220 E-Business.....3
CIS 253A Database Design and Implementation.....3
CIS 257 Designing Internet Applications.....3
CIS 280 Java Programming 3

OFFICE SYSTEMS EDUCATION PROGRAMS

(SEE "BUSINESS" FOR COURSE DESCRIPTIONS)

Many of the OSE courses are taught in the self-paced Office Systems Education computer lab (OSE Lab). Instructors using this system recognize that no two students are exactly alike in background, skills, and learning abilities. Students will find that this learning system can be adapted to their own special talents, needs, and objectives. Please note that all prerequisites, as listed in class schedules, must be met prior to enrolling in a Lab course.

This system of individualized instruction combines specialized software and printed materials in a sequence of learning activities. Students PROCEED AT THEIR OWN PACE WITH A DAILY SCHEDULE THAT THEY CREATE within the lab hours of operation and following a weekly schedule of assignments. The following courses are currently taught in the OSE Lab:

BUS 179 Keyboarding
BUS 188B Voice Transcription – Legal
BUS 181C Office Procedures I – Document Formatting
BUS 188D Voice Transcription – Medical Part I
BUS 182C Office Procedures II – Document Production
BUS 188E Voice Transcription – Medical Part II
BUS 281C Office Procedures III – Desktop Publishing
BUS 194 Business English Essentials
BUS 195 Medical Records Management
BUS 187A Electronic Records Management
BUS 280C Word Processing Part II
BUS 185B Electronic Calculator
BUS 188A1 Voice Transcription – Administrative
CIS 115WW Introduction to Word Processing
CIS 119PP Introduction to Presentation Graphics
CIS 101EW Introduction to Electronic Spreadsheets
CIS 153AW Introduction to Database Management

OSE Lab students design a schedule that allows them to finish comfortably the course or courses in which they enroll. Students can complete the course assignments in the Lab at any time that the Lab is open during the day or at night. For OSE Lab courses, students have up to 15 weeks in the Fall and Winter and up to 7.5 weeks in the spring to complete their course(s). Keyboarding and Records Management are **always** 7.5-week courses. It is possible to complete OSE Lab courses in less than the 15 weeks (or 7.5 weeks as mentioned above).

Students who enroll in an OSE Lab course should check the MCC class schedule to read about the scheduled date for the OSE Lab student orientation. This student orientation is **required** for all first-time OSE Lab students.

A.A.S. Degree Programs
Office Systems - Administrative
Office Systems - Information Processing
Office Systems - International
Office Systems - Legal
Office Systems - Medical
Office Systems - Medical Office Management

Professional Development Credits
Administrative Voice Transcription
Legal Voice Transcription
Medical Voice Transcription
Office Skill Building
Word Processing

Certificates
Medical Clerk
Office Support Specialist

OFFICE SYSTEMS EDUCATION – ADMINISTRATIVE – A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor. This program will provide training in office systems education activities in order for the student to attain a high degree of competency and meet entry-level qualifications for an administrative office assistant position.

GENERAL EDUCATION REQUIREMENTS (21-22 CR. HRS.)	**CR. HRS.**
[5]BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math or MATH 109 College Algebra with Applications	3-4
BUS 127 Human Relations OR COM 101 Oral Communications	3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice)	2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CORE REQUIREMENTS (26 CR. HRS.)

[1]BUS 179 Keyboarding (See note below for placement) 1
[2]BUS 181C Office Procedures I–Document Formatting
(See note below for placement) 3
[3]BUS 180C Introduction to Word Processing Part I 4
[4]BUS 182C Office Procedures II–Document Production 2
CIS 101 Introduction to Electronic Spreadsheets 1
CIS 153 Introduction to Database Management 1
CIS 119PP Introduction to Presentation Graphics 1
BUS 185B Electronic Calculator 2
BUS 187A Electronic Records Management 2
BUS 280C Word Processing Part II 3
BUS 281C Office Procedures III–Desktop Publishing 3
BUS 290CI Cooperative Internship Program 3

CAREER PROGRAM REQUIREMENTS (4 CR. HRS.)

BUS 188A1 Voice Transcription – Administrative 3
BUS 194 Business English Essentials 1

SUGGESTED ELECTIVES
(Dependent on individual student to meet 62 cr. hr. minimum.)

BUS 102 Principles of Accounting II 4
BUS 122 Principles of Management 3
BUS 166 Quality Customer Service 3
CIS 100 Introduction to Personal Computers.....1
CIS 160 Programming Small Computers in BASIC 3
PSCI 202 International Relations.....3

Minimum Total 62

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

Please see the Business Department counselor or an OSE instructor for the recommended sequence of classes for a semester.

OFFICE SYSTEMS EDUCATION–INFORMATION PROCESSING - A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student planning to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor. This program will provide the student with training in office systems education activities in order for the student to attain a high degree of competency and meet entry-level qualifications for an administrative office assistant position with special skills in information processing.

GENERAL EDUCATION REQUIREMENTS (21-22 CR. HRS.)	**CR. HRS.**
[5]BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math or MATH 109 College Algebra with Applications	3-4
BUS 127 Human Relations OR COM 101 Oral Communications	3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice)	2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)	
BUS 101 Principles of Accounting I	4
BUS 121 Introduction to Business	3
BUS 200 International Business	3

CORE REQUIREMENTS (26 CR. HRS.)	
[1]BUS 179 Keyboarding (See note below for placement)	1
[2]BUS 181C Office Procedures I–Document Formatting (See note below for placement)	3
[3]BUS 180C Introduction to Word Processing Part I	4
[4]BUS 182C Office Procedures II–Document Production	2
CIS 101 Introduction to Electronic Spreadsheets	1
CIS 153 Introduction to Database Management	1
CIS 119PP Introduction to Presentation Graphics	1
BUS 185B Electronic Calculator	2
BUS 187A Electronic Records Management	2
BUS 280C Word Processing Part II	3
BUS 281C Office Procedures III–Desktop Publishing	3
BUS 290CI Cooperative Internship Program	3

CAREER PROGRAM REQUIREMENTS (4 CR. HRS.)

CIS 100 Introduction to Personal Computers.....1
CIS 102 Intermediate Electronic Spreadsheet 1
CIS 163 Introduction to BASIC Programming Language 1
CIS 177 Introduction to HTML Editors..... 1

SUGGESTED ELECTIVES
(Dependent on individual student to meet 62 cr. hr. minimum.)

BUS 102 Principles of Accounting II 4
BUS 122 Principles of Management..... 3
BUS 166 Quality Customer Service 3
BUS 194 Business English Essentials 1
PSCI 202 International Relations.....3
Minimum Total 62

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

Please see the Business Department counselor or an OSE instructor for the recommended sequence of classes for a semester.

OFFICE SYSTEMS EDUCATION – INTERNATIONAL —A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor. This program will provide training in office systems education activities in order for the student to attain a high degree of competency and meet entry-level qualifications for an administrative office assistant position; with specialized foreign language skills.

GENERAL EDUCATION REQUIREMENTS (21-22 CR. HRS.) CR. HRS.

[5]BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math or MATH 109 College Algebra with Applications ... 3-4
BUS 127 Human Relations OR COM 101 Oral Communications 3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CORE REQUIREMENTS (26 CR. HRS.)

[1]BUS 179 Keyboarding (See note below for placement) 1
[2]BUS 181C Office Procedures I–Document Formatting (See note below for placement) 3
[3]BUS 180C Introduction to Word Processing Part I 4
[4]BUS 182C Office Procedures II–Document Production 2
CIS 101 Introduction to Electronic Spreadsheets 1
CIS 153 Introduction to Database Management 1
CIS 119PP Introduction to Presentation Graphics 1
BUS 185B Electronic Calculator 2
BUS 187A Electronic Records Management 2
BUS 280C Word Processing Part II 3
BUS 281C Office Procedures III–Desktop Publishing 3
BUS 290CI Cooperative Internship Program 3

CAREER PROGRAM REQUIREMENTS (11 CR. HRS.)

Foreign Language (See counselor for placement possibilities) 8
PSCI 211 Comparative Governments (if not taken as a General Education course) OR PSCI 202 International Relations 3

SUGGESTED ELECTIVES
(Dependent on individual student to meet 62 cr. hr. minimum.)

BUS 102 Principles of Accounting II 4
BUS 122 Principles of Management 3
BUS 166 Quality Customer Service 3
CIS 100 Introduction to Personal Computers.....1
PHIL 205 Business Ethics 3
GEOG 105 World Regional Geography 3
GEOG 102C Cultural Geography (if not taken as Gen. Ed.) 3
PSCI 202 International Relations 3

Minimum Total 62

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

Please see the Business Department counselor or an OSE instructor for the recommended sequence of classes for a semester.

OFFICE SYSTEMS EDUCATION – LEGAL — A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor. This program will provide the student with training in office systems education activities in order to attain a high degree of competency and meet entry-level qualifications for an administrative office assistant position with specialized legal skills.

GENERAL EDUCATION REQUIREMENTS (21-22 CR. HRS.) ..... CR. HRS.

[5]BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math or MATH 109 College Algebra with Applications ... 3-4
BUS 127 Human Relations OR COM 101 Oral Communications 3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CORE REQUIREMENTS (26 CR. HRS.)

[1]BUS 179 Keyboarding (See note below for placement) 1
[2]BUS 181C Office Procedures I–Document Formatting (See note below for placement) 3
[3]BUS 180C Introduction to Word Processing Part I 4
[4]BUS 182C Office Procedures II–Document Production 2
CIS 101 Introduction to Electronic Spreadsheets 1
CIS 153 Introduction to Database Management 1
CIS 119PP Introduction to Presentation Graphics 1
BUS 185B Electronic Calculator 2
BUS 187A Electronic Records Management 2
BUS 280C Word Processing Part II 3
BUS 281C Office Procedures III–Desktop Publishing 3
BUS 290CI Cooperative Internship Program 3

CAREER PROGRAM REQUIREMENTS (6 CR. HRS.)

BUS 188B Voice Transcription – Legal 3
BUS 123 Business Law I 3

SUGGESTED ELECTIVES
(Dependent on individual student to meet 62 cr. hr. minimum.)

BUS 102 Principles of Accounting II 4
BUS 122 Principles of Management 3
BUS 166 Quality Customer Service 3
BUS 194 Business English Essentials 1
CIS 100 Introduction to Personal Computers.....1
PSCI 202 International Relations.....3

Minimum Total 62

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

Please see the Business Department counselor or an OSE instructor for the recommended sequence of classes for a semester.

OFFICE SYSTEMS EDUCATION – MEDICAL — A.A.S.

The following program is for the A.A.S. Degree student. It is not designed for the student wishing to transfer to a four-year institution. Any student desiring to pursue a transfer program in business should consult with a counselor. This program will provide the student with training in office systems education activities in order to attain a high degree of competency and meet entry-level qualifications for an administrative office assistant position with specialized medical skills.

GENERAL EDUCATION REQUIREMENTS (21-22 CR. HRS.) CR. HRS.

[5]BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math or MATH 109 College Algebra with Applications ... 3-4
BUS 127 Human Relations OR COM 101 Oral Communications 3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CORE REQUIREMENTS (27 CR. HRS.)

[1]BUS 179 Keyboarding (See note below for placement) 1
[2]BUS 181C Office Procedures I–Document Formatting (See note below for placement) 3
[3]BUS 180C Introduction to Word Processing Part I 4
[4]BUS 182C Office Procedures II–Document Production 2
CIS 101 Introduction to Electronic Spreadsheets 1
CIS 153 Introduction to Database Management 1
CIS 119PP Introduction to Presentation Graphics 1
BUS 185B Electronic Calculator 2
BUS 195 Medical Records Management 3
BUS 280C Word Processing Part II 3
BUS 281C Office Procedures III–Desktop Publishing 3
BUS 290CI Cooperative Internship Program 3

CAREER PROGRAM REQUIREMENTS (9 CR. HRS.)

BUS 188D Voice Transcription – Medical, Part I 2
BUS 188E Voice Transcription – Medical, Part II 2
AH 101 Medical Terminology 3
AH 104 Medical Insurance Billing 2

SUGGESTED ELECTIVES
(Dependent on individual student to meet 62 cr. hr. minimum.)

BUS 194 Business English Essentials 1
BUS 102 Principles of Accounting II 4
BUS 166 Quality Customer Service 3
BIOL 103 Introductory Biology 4
CIS 100 Introduction to Personal Computers.....1
PSCI 202 International Relations.....3
Minimum Total 62

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

Please see the Business Department counselor or an OSE instructor for the recommended sequence of classes for a semester.

MEDICAL OFFICE MANAGEMENT—A.A.S.

This program is designed for students planning to seek employment in a medical office or similar health care practice of two to six physicians. The curriculum includes general business principles, quality customer service, medical ethics, electronic records management, human resource management, and managed care. The student will develop skills to manage employees, patients, and the business practice in general. A cooperative internship in a medical, dental, or similar health care office is a requirement for the Associates Degree. The program also provides opportunities to upgrade present knowledge and skills or to retrain in the area of medical office management.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.) CR. HRS.

BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math OR MATH 109 College Algebra with Applications . 3-4
BUS 127 Human Relations OR COM 101 Oral Communications 3
CIS 110 Computer Concepts OR CIS 120A Introduction to Computer Information Systems 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 and one PEA/DNC credit hour of choice) 2

BUSINESS CORE REQUIREMENTS (10 CR. HRS.)

BUS 101 Principles of Accounting I 4
BUS 121 Introduction to Business 3
BUS 200 International Business 3

CAREER PROGRAM REQUIREMENTS (34 CR. HRS.)

BUS 290CI Cooperative Internship Program 3
AH 101 Medical Terminology 3
AH 104 Medical Insurance Billing 2
AH 106 Fundamentals of Health Care Delivery 3
BUS 123 Business Law I 3
BUS 273A Human Resource Management 3
BUS 166 Quality Customer Service 3
BUS 125 Supervision 3
BUS 180C Introduction to Word Processing Part I 4
BUS 103 Payroll Accounting & Business Taxes 3
BUS 195 Medical Records Management 3
BUS 297QB Quickbooks 1

OTHER CLASSES TO CONSIDER

CIS 101 Introduction to Electronic Spreadsheets 1
CIS 153 Introduction to Database Management 1

Minimum Total 64-66

OFFICE SYSTEMS EDUCATION – CERTIFICATE PROGRAMS

The following one-year programs are designed for non-transfer students. Students with a desire to pursue a transfer program in business should consult a counselor.

OFFICE SUPPORT SPECIALIST CERTIFICATE

This program is designed to provide training and practice in information processing skills for an entry-level position in an office environment. Proficiency and speed in the performance of these skills will be measured.

CAREER PROGRAM REQUIREMENTS	**CR. HRS.**
[1]BUS 179 Keyboarding (See note below for placement)	1
CIS 100 Introduction to Personal Computers	1
[2]BUS 181C Office Procedures I–Document Formatting (See note below for placement)	3
[3]BUS 180C Introduction to Word Processing Part I	4
CIS 101 Introduction to Electronic Spreadsheets	1
CIS 102 Intermediate Electronic Spreadsheets	1
CIS 153 Introduction to Database Management	1
[4]BUS 182C Office Procedures II–Document Production	2
[5]BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
CIS 119PP Introduction to Presentation Graphics	1
BUS 185B Electronic Calculator	2
BUS 187A Electronic Records Management	2
BUS 280C Word Processing Part II	3

SUGGESTED ELECTIVES (Dependent on individual student to meet 30 cr. hr. minimum.)

BUS 188AI Voice Transcription - Administrative 3
BUS 120A Introduction to Computer Information Systems 3
BUS 121 Introduction to Business 3
BUS 194 Business English Essentials 1
BUS 200 International Business 3

Minimum Total 30

Continued on next page.

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

MEDICAL CLERK CERTIFICATE

This program is designed to provide training and practice in medical office assistant skills and medical transcription. Proficiency and speed in the performance of these skills will be measured.

CAREER PROGRAM REQUIREMENTS	**CR. HRS.**
[1]BUS 179 Keyboarding (See note below for placement)	1
[2]BUS 181C Office Procedures I–Document Formatting (See note below for placement)	3
[3]BUS 180C Introduction to Word Processing Part I	4
[4]BUS 182C Office Procedures II–Document Production	2
[5]BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
CIS 100 Introduction to Personal Computers	1
CIS 101 Introduction to Electronic Spreadsheets	1
CIS 119PP Introduction to Presentation Graphics	1
CIS 153 Introduction to Database Management	1
BUS 185B Electronic Calculator	2
AH 101 Medical Terminology	3
AH 104 Medical Insurance Billing	2
BUS 195 Medical Records Management	3
BUS 188D Voice Transcription-Medical – Part I	2
BUS 188E Voice Transcription-Medical – Part II	2

SUGGESTED ELECTIVES
(Dependent on individual student to meet 30 cr. hr. minimum.)

BUS 121 Introduction to Business	3
BUS 194 Business English Essentials	1
BUS 280C Word Processing Part II	3
BUS 200 International Business	3
CIS 120A Introduction to Computer Information Systems	3
Minimum Total	30

[1]BUS 179 Keyboarding – This course should be taken the first semester by the student with no formal training in correct keyboarding techniques. A student with a typing speed of at least 20-25 wpm should enroll in BUS 181C.

[2]BUS 181C Office Procedures I–Document Formatting – Designed for the student who has correct typing techniques, types at least 25-35 wpm, and has basic word processing skills but lacks formal training in formatting business documents. Student must obtain a grade of C- or better to advance.

[3]BUS 180C is a prerequisite for BUS 182C Office Procedures II–Document Production and BUS 281C Office Procedures III–Desktop Publishing, voice transcription courses, and advanced word processing courses. Attempt to enroll in this class your first semester.

[4]BUS 182C Office Procedures II–Document Production – Designed for the student with some formal training in document formatting, types 40 wpm or higher, and has a knowledge of Microsoft Word. Student must obtain a grade of C- or better to advance.

[5]Student must obtain a grade of C- or better to advance.

OSE PROFESSIONAL DEVELOPMENT CREDITS

The following programs have been designed to help students update their current skills. Each program includes two or more courses, each one packaged differently to give students options. Students will be awarded a "Statement of Proficiency Award" upon completion of any program. In addition, a notation will be made on the student's official transcript. Once a student has completed one of the programs, he/she may apply the credits toward a 30-credit hour certificate or a degree. Students must apply for an audit in the Records Office.

Courses must be taken in this sequence unless otherwise noted and all prerequisite courses must be completed. Students will have 18 months to complete courses to receive the award. Students must receive at least a "C-" in each course in order to receive the OSE Professional Development Credit Statement of Proficiency Award. No waivers or transfer classes are accepted.

ADMINISTRATIVE VOICE TRANSCRIPTION	**CR. HRS.**
BUS 194 Business English Essentials	1
BUS 180C Introduction to Word Processing - Part I	4
BUS 188A1 Voice Transcription, Administrative	3
(See Course Schedule for any prerequisites.)	**Total 8**

LEGAL VOICE TRANSCRIPTION	**CR. HRS.**
BUS 194 Business English Essentials	1
BUS 180C Introduction to Word Processing - Part I	4
BUS 188B Voice Transcription, Legal	3
BUS 123 Business Law (may be taken before or after sequence)	3
(See Course Schedule for any prerequisites.)	**Total 11**

MEDICAL VOICE TRANSCRIPTION	**CR. HRS.**
AH 101 Medical Terminology	3
BUS 180C Introduction to Word Processing - Part I	4
BUS 188D Medical Voice Transcription, Part I	2
BUS 188E Medical Voice Transcription, Part II	2
(See Course Schedule for any prerequisites.)	**Total 11**

OFFICE SKILL BUILDING	CR. HRS.
BUS 194 Business English Essentials	1
BUS 180C Introduction to Word Processing - Part I	4
BUS 182C Office Procedures II - Document Production	2
(See Course Schedule for any prerequisites.)	**Total 7**

WORD PROCESSING	CR. HRS.
BUS 180C Introduction to Word Processing - Part I	4
BUS 280C Word Processing Part II	3
(See Course Schedule for any prerequisites.)	**Total 7**

EDUCATION PROGRAMS (Degrees and Certificates)

EARLY CHILDHOOD EDUCATION
MICHIGAN SCHOOL-AGE CREDENTIAL – A.A.S.

Muskegon Community College and the State of Michigan currently offer a certificate program preparing paraprofessional workers to work in various grades/classrooms, latchkey programs, and child care centers. It is an opportunity for students to gain professional recognition for demonstrating competence in their profession. The Education Department is pleased to announce that students who complete two years of instruction can now receive the Associate in Applied Science Degree (A.A.S.) Students desiring to transfer to a four-year institution should consult with a counselor. This curriculum is not designed as a transfer program.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.)	CR.HRS.
BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math OR	
MATH 105 Math for Elementary Teachers	3-4
BUS 127 Human Relations OR	
COM 101 Oral Communications	3
CIS 120A Introduction to Computer Information Systems OR	
CIS 110 Computer Concepts	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118 or PEA 201 and one PEA/DNC credit hour of choice)	2

***CAREER PROGRAM REQUIREMENTS (31-32 CR. HRS.)**

ED 101 Introduction to Education 2
ED 118 Creative Curriculum for Children 3
ED 202 Teaching of Reading in the Elementary School 3
ED 207 Principles of Elementary Education 3
ED 106 Introduction to Outdoor Education OR
ED 219 Science in the Elementary Classroom 2-3
ED 211 Behavior Management OR
ED 221 Teaching Students with Learning and Behavior Problems 3
ED 230 Children's Literature 3
ED 225 Child Development OR
ED 250 Human Growth and Learning 3
ED 210 Child Care and Guidance 3
ED 290 CI Cooperative Internship 3
PSYC 202 Educational Psychology 3
*Total Fieldwork Hours: 480

SUGGESTED ELECTIVES (Minimum 8-9 CR. HRS.)

ED 103 Constructive Play for the Developing Child 1
ED 108 Creativity in the Classroom 2
ED 109 The Parent-Child Connection 3
ED 211 Behavior Management 3
ED 216 Educating the Exceptional Child and Young Adult 3
ED 217 Creative Dramatics 1
ED 221 Teaching Students with Learning and Behavior Problems 3
ED 224 Comparative Education 3
ED 251 Health Needs of the Young Child 3
ART 211 Art Education Workshop 3
CSS 100 College Success Seminar 2
MATH 050 Intermediate Algebra 4
MU 192 Music for the Classroom Teacher 4
SOC 101 Principles of Sociology 3
TH 108 Theater for Children 3

Total 62

CHILD DEVELOPMENT ASSOCIATE - A.A.S.

Muskegon Community College currently offers a certificate program in Child Development. The purpose of the program is to enhance the quality of child care by defining, evaluating, and recognizing the competence of child care providers. The C.D.A. student, after successfully completing the program may apply to The Council for Professional Recognition in Washington, D.C. for assessment of the competency standards and earn a CDA Credential.

The Education Department is pleased to announce that students who complete two years of instruction can now receive the Associate in Applied Science Degree (A.A.S.). This level of graduate can function as lead teacher for 3-5 year old children in a center-based preschool.

Students desiring to transfer to a four-year institution should consult with a counselor. This curriculum is not designed as a transfer program.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.)	**CR.HRS.**
BCOM 101 Business and Technical Communications	3
BCOM 102 Advanced Business and Technical Communications	3
BUS 126 Business Math OR MATH 105 Math for Elementary Teachers	3-4
BUS 127 Human Relations OR COM 101 Oral Communications	3
CIS 120A Introduction to Computer Information Systems OR CIS 110 Computer Concepts	3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology	3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118 or PEA 201 and one PEA/DNC credit hour of choice)	2

***CAREER PROGRAM REQUIREMENTS (26 CR. HRS.)**	
ED 111 Introduction to the Education of Young Children	3
ED 120 Early Childhood Education	3
ED 211 Behavior Management	3
ED 214 Infants and Toddlers	3
ED 220A Early Childhood Assessment	2
ED 230 Children's Literature	3
ED 225 Child Development OR ED 250 Human Growth and Learning	3
ED 210 Child Care and Guidance	3
ED 290 CI Cooperative Internship	3

***Total Fieldwork Hours: 480**

SUGGESTED ELECTIVES (Minimum 14 CR. HRS.)

ED 103 Constructive Play for the Developing Child 1
ED 108 Creativity in the Classroom 2
ED 109 The Parent-Child Connection 3
ED 117 The Whole Child 3
ED 118 Creative Curriculum for Children 3
ED 200 Literacy - Birth to Five Years 3
ED 202 Teaching of Reading in the Elementary School 3
ED 216 Educating the Exceptional Child and Young Adult 3
ED 217 Creative Dramatics 1
ED 219 Science in the Elementary Classroom 3
ED 107 Child Care: Operating a Successful Business OR
ED 223 Child Care Center Administration 3
ED 224 Comparative Education 3
ED 251 Health Needs of the Young Child 3
ART 211 Art Education Workshop 3
CSS 100 College Success Seminar 2
MATH 050 Intermediate Algebra 4
MU 192 Music for the Classroom Teacher 4
PSYC 202 Educational Psychology 3
SOC 101 Principles of Sociology 3
TH 108 Theater for Children 3

Total 62

EARLY CHILDHOOD EDUCATION
INSTRUCTIONAL ASSISTANT, SPECIAL EDUCATION - A.A.S.

GENERAL EDUCATION REQUIREMENTS (20-22 CR. HRS.) **CR.HRS.**

BCOM 101 Business and Technical Communications 3
BCOM 102 Advanced Business and Technical Communications 3
BUS 126 Business Math OR
MATH 105 Math for Elementary Teachers 3-4
BUS 127 Human Relations OR
COM 101 Oral Communications 3
CIS 120A Introduction to Computer Information Systems OR
CIS 110 Computer Concepts 3
Select one course from the following: GEOG 102C Cultural Geography, PHIL 205 Business Ethics, PSCI 111 Introduction to American Government, PSCI 211 Comparative Governments, PSYC 201 General Psychology, or PSYC 102 Applied Psychology 3-4
PEA/DNC Physical Education and/or Dance (Required: One credit hour from: PEA 101A, PEA 103, PEA 104A, PEA 118 or PEA 201 and one PEA/DNC credit hour of choice) 2

***CAREER PROGRAM REQUIREMENTS (26 CR. HRS.)**

ED 101 Introduction TO Education 2
ED 106 Introduction to Outdoor Education OR
ED 219 Science in the Elementary Classroom 2-3
ED 118 Creative Curriculum for Children 3
ED 202 Teaching of Reading in theElementary School..... 3
ED 207 Principles of Elementary Education..... 3
ED 211 Behavior Management OR
ED 221 Teachiing Students with Learning and Behavioral Problems 3
ED 216 Educating the Exceptional Child and Young Adult 3
ED 222 Educating the Deaf 3
ED 225 Child Development OR
ED 250 Human Growth and Learning 3
ED 230 Children's Literature 3
PSYC 202 Educational Psychology..... 3
ED 210 Child Care and Guidance 3
ED 290 CI Cooperative Internship 3

***Total Fieldwork Hours: 480**

SUGGESTED ELECTIVES (Minimum 2-5 CR. HRS.)

ED 103 Constructive Play for the Developing Child 1
ED 108 Creativity in the Classroom 2
ED 109 The Parent-Child Connection 3
ED 217 Creative Dramatics 1
ED 219 Science in the Elementary Classroom 3
ED 220A Early Childhood Assessment 3
ED 224 Comparative Education 3
ED 226 Interdisciplinary Approaches to Early Interventions..... 3
ED 251 Health Needs of the Young Child 3
ART 211 Art Education Workshop 3
CSS 100 College Success Seminar 2
**HE 100A Community First Aid..... 2
30 hours minimum working with CIMo, CIS, SXI, AI
MATH 050 Intermediate Algebra 4
MU 192 Music for the Classroom Teacher 4
SOC 101 Principles of Sociology 3
TH 108 Theater for Children 3

Total 62

**A valid First Aid and CPR card must be current at the time of graduation for all certificate programs. Approved prior experience may be counted for *some* fieldwork hours. All courses earn college credit.

An individualized Educational Planning Committee (IEPC) programs are:

- Moderate cognitive impairments (CIMo) -- 88 hours
- Severe cognitive impairments (CIS) -- 88 hours
- Severe multiple impairments (SXI) -- 88 hours
- Autistic Impairment (AI) -- 88 hours

The CIS and SXI programs operate year-round, while CIMo and AI are on a regular year calendar.

PROFESSIONAL EDUCATION CERTIFICATES

The national Child Development Associate (C.D.A.) and Muskegon Community College's certificates provide competency-based professional preparation for individuals interested in becoming preschool teachers and paraprofessionals. The national C.D.A. certificates are recognized throughout the country. The preschool center-based program is accepted as alternate teacher certification in teaching 3-5 year old children in non-public school settings. The M.C.C., MI School Age, and Instructional Assistant-Special Education certificates prepare paraprofessional workers competent to work in various grades/classrooms. In an age when single-parent homes are increasing, or where both parents of an increasing number of children are working outside the home, placing children in an enriched and stimulating learning environment with well-trained workers is critical.

Past work experience and former academic coursework may be considered when programs are planned. More than one certificate may be obtained through individually designed programs. A certificate may be obtained as entry into the workforce, or the student may continue with the Associate in Science and Arts Degree or Associate in Applied Science Degree.

Please contact the Education Department office (231.777.0277) for more information concerning these certificate programs, and the Early Childhood Education sequence leading to the A.S.A degree or the A.A.S. degree.

Entry into any certificate program includes:

- Completion of an MCC application for admission
- Completion of a professional certificate program application
- MCC assessments in English, reading, and mathematics
- Interview with the Education Coordinator

In order to earn an Education Certificate, a student must maintain at least a "C" (2.0) grade in every course and have a 2.5 cumulative G.P.A. prior to enrolling for an independent study course.

NOTE: 15 fieldwork hours for every 1 credit hour of course work is required for all students. **To avoid updating coursework, all courses in a certificate must be completed within five years.**

Continued on next page.

CHILD DEVELOPMENT ASSOCIATE CERTIFICATE (CDA) CR.HRS.
(Center-Based Preschool)

ED 111 Introduction to the Education of Young Children 3
ED 120 Early Childhood Education 3
ED 211 Behavior Management..... 3
ED 214 Infants and Toddlers 3
ED 220A Early Childhood Assessment 2
ED 230 Children's Literature 3
ED 225 Child Development OR
ED 250 Human Growth and Learning 3
ED 210 Child Care and Guidance 3
ED 290CI Cooperative Internship 3
Total 26

Those pursuing a director's position should also take Administrative Electives:

ED 109 The Parent-Child Connection..... 3
ED 118 Creative Curriculum for Children..... 3
ED 107 Child Care: Operating a Successful Business OR
ED 223 Child Care Center Administration 3
ED 251 Health Needs of the Young Child 3
Total 12

Total Fieldwork Hours: 480
Students are required to successfully complete HE 100A Community First Aid or present a valid CPR and First Aid card.

FAMILY DAY CARE CERTIFICATE (FDC) CR. HRS.

ED 111 Introduction to the Education of Young Children 3
ED 120 Early Childhood Education 3
ED 211 Behavior Management..... 3
ED 214 Infants and Toddlers 3
ED 107 Child Care: Operating a Successful Business OR
ED 223 Child Care Center Administration 3
ED 220A Early Childhood Assessment 2
ED 230 Children's Literature 3
ED 225 Child Development OR
ED 250 Human Growth and Learning 3
ED 210 Child Care and Guidance 3
ED 290CI Cooperative Internship 3
Total 29

Total Fieldwork Hours: 480
Students are required to successfully complete HE 100A Community First Aid or present a valid CPR and First Aid card.

INFANT – TODDLER CERTIFICATE (ITC) (0-36 MONTHS) CR. HRS.

ED 111 Introduction to Education of Young Children.....3
ED 120 Early Childhood Education 3
ED 214 Infants and Toddlers 3
ED 107 Child Care: Operating a Successful Business OR
ED 223 Child Care Center Administration.....3
ED 220A Early Childhood Assessment 2
ED 230 Children's Literature 3
ED 225 Child Development OR
ED 250 Human Growth and Learning 3
ED 226 Interdisciplinary Approaches to Early Intervention..... 3
ED 210 Child Care and Guidance 3
ED 290CI Cooperative Internship 3

Total 29

Total Fieldwork Hours: 480
Students are required to successfully complete HE 100A Community First Aid or present a valid CPR and First Aid card.

TEACHER AIDE / PARAPROFESSIONAL CREDENTIAL CR. HRS.

ED 101 Introduction to Education 2
ED 202 Teaching of Reading in the Elementary School 3
ED 207 Principles of Elementary Education 3
ED 118 Creative Curriculum for Children 3
ED 211 Behavior Management OR.....3
ED 221 Teaching Students with Learning and Behavioral Problems 3
ED 106 Introduction to Outdoor Education OR
ED 219 Science in the Elementary Classroom.....2/3
ED 230 Children's Literature 3
ED 225 Child Development, OR
ED 250 Human Growth and Learning 3
PSYC 202 Educational Psychology 3
ED 210 Child Care and Guidance 3
ED 290CI Cooperative Internship 3

Total 34-35

Total Fieldwork Hours: 480
Students are required to successfully completed HE 100A Community First Aid or present a valid CPR and First Aid card.

Continued on next page.

INSTRUCTIONAL ASSISTANT, SPECIAL EDUCATION CERTIFICATE

ED 101 Introduction to Education 2
ED 106 Introduction to Outdoor Education, OR
ED 219 Science in the Elementary Classroom 2-3
ED 118 Creative Curriculum for Children..... 3
ED 202 Teaching of Reading in the Elementary School 3
ED 207 Principles of Elementary Education 3
ED 211 Behavior Management OR
ED 221 Teaching Students with Learning/Behavioral Problems 3
ED 216 Educating the Exceptional Child and Young Adult 3
ED 222 Educating the Deaf 3
ED 225 Child Development, OR
ED 250 Human Growth and Learning 3
ED 230 Children's Literature 3
PSYC 202 Educational Psychology 3
ED 210 Child Care and Guidance 3
ED 290CI Cooperative Internship 3
Total Credit Hours (Minimum) **37-38**

**A valid First Aid and CPR card must be current at the time of graduation for all certificate programs. Approved prior experience may be counted for *some* fieldwork hours. All courses earn college credit.

An individualized Educational Planning Committee (IEPC) programs are:

- Moderate cognitive impairments (CIMo) -- 88 hours
- Severe cognitive impairments (CIS) -- 88 hours
- Severe multiple impairments (SXI) -- 88 hours
- Autistic Impairment (AI) -- 88 hours

The CIS and SXI programs operate year-round, while CIMo and AI are on a regular year calendar.

The Instructional Assistant-Special Education Certificate is State of Michigan *approved*. Past work experience and former academic coursework may be considered when programs are planned. More than one certificate may be obtained through individually designed programs. A certificate may be obtained as entry into the workforce, or the student may continue with the Associate in Science and Arts or Associate in Applied Science degrees.

INDUSTRIAL TECHNOLOGY PROGRAMS
(Degrees and Certificates)

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST. Students should be advised that it could be dangerous to wear contact lenses in any area where fumes from chemicals, solvents, gases, and areas where electrical flash may be present. You should plan to wear prescription eyeglasses if you take classes where these hazards exist.

AUTOMOTIVE TECHNOLOGY - A.A.S. (Two-Year Program)

This curriculum is designed to educate and train personnel to fill the mechanical, technical, and supervisory positions in the automotive industry. Successful completion of the program leads to the degree of Associate in Applied Science. (Students may elect only those courses required to develop a particular skill without enrolling in the entire program of study that leads to a degree.) Students who wish to complete a program in two years are advised to use a sequence of courses recommended by their counselor or by the instructor. If a student wishes to attend college on less than a full-time basis, the program may be extended beyond two years.

GENERAL EDUCATION REQUIREMENTS (20 CR. HRS.)	**CR. HRS.**
BCOM 101 & 102 Business and Technical Communications	6
TMAT 101, 102, 201 Technical Math (choose two)	6
AMT 129 Introduction to Technology	3
BUS 127 Human Relations	3
PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201	1
HE 110 Industrial Safety and Workplace Training	1

AUTOMOTIVE TECHNOLOGY REQUIREMENTS (30 CR. HRS.)	
AT 120 Introduction to Electrical Systems I	3
AT 121 Electrical Systems II	3
AT 122 Fuel Systems and Emission Controls	3
AT 123 Engine Tune-Up (Engine Performance)	3
AT 114 Automotive Power Plants (Engine Rebuilding	3
AT 210 Power Trains (Drivelines- Manual Drivetrains)	3
AT 211 Automatic Transmissions (FWD and RWD)	3
AT 212 Alignment and Suspension	3
AT 213 Brakes and Air Conditioning	3
AT 214 Service Management	3

NOTE: AT 120/AT 121 must be taken before AT 122/AT 123.

Continued on next page.

TECHNICAL-RELATED REQUIREMENTS (6 CR. HRS.)

W 101 Basic Welding 3
MT 101A Basic Machining 3

ELECTIVES (Chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (6 CR. HRS.)

MET 101 Industrial Materials 3
MET 201 Metallurgy. 3
MET 102 Basic Cast Metals 3
HP 101 Hydraulics/Pneumatics 3
CAD 150 Blueprint Reading 3
CAD 100, 130, or 140 Drafting 3
ELTC 101 Basic Electricity 3
TECH 290CI Cooperative Internship 3

Total 62

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

AUTOMOTIVE TECHNOLOGY CERTIFICATE REQUIREMENTS **CR. HRS.**

TMAT 101 Technical Math 3
AT 114 Automotive Power Plants (Engine Rebuilding) 3
AT 120 Intro. to Electrical Systems I 3
AT 121 Electrical Systems II 3
AT 122 Fuel Systems and Emission Controls 3
AT 123 Electrical Tune-Up 3
AT 210 Power Trains (FWD & RWD Drivelines) 3
AT 211 Automatic Transmissions 3
AT 212 Alignment and Suspension 3
AT 213 Brakes and Air Conditioning 3

Total 30

Note: AT 120/AT 121 must be taken before AT 122/AT 123.
BCOM 101 Business and Technical Communications is recommended.

BIOMEDICAL ELECTRONICS TECHNOLOGY - A.A.S.
(Two-Year Program)

The biomedical electronics technician is a person knowledgeable in the theory of operation, the underlying physiological principles, and the safe clinical application of biomedical equipment. Responsibilities may include installation, calibration, inspection, preventive maintenance, and repair of general biomedical and related technical equipment. The technician might be involved in the operation of equipment and in equipment control, safety, and maintenance.

GENERAL EDUCATION REQUIREMENTS (19 CR. HRS.)	**CR. HRS.**
BCOM 101 & 102 Business and Technical Communications	6
ELTR 111 Electronics Math	5
AMT 129 Introduction to Technology	3
BUS 127 Human Relations	3
PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201	1
HE 110 Industrial Safety and Workplace Training	1

TECHNICAL RELATED REQUIREMENTS (45 CR. HRS.)	
AH 101 Medical Technology	3
BIOL 105 Anatomy & Physiology I, L&L	4
BIOL 106 Anatomy & Physiology II, L&L	4
ELTR 101 Electronics-Basic	4
ELTR 102A Active Devices & Circuit Analysis	4
ELTR 112 Digital Electronics I	3
ELTR 201A Communications (Principles & Servicing)	4
ELTR 202A Industrial Electronic Systems	4
ELTR 205 Electronic Circuit Design	3
ELTR 210 Introduction to Microprocessors	3
ELTR 211A Microcomputer Interfacing	3
ELTR 212 Medical Instrumentation & Measurement	4
TECH 290CI Cooperative Internship Program	2

ELECTIVES 3-4

Total 64-65

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

COMPUTER-AIDED DRAFTING AND DESIGN - A.A.S. (Two-Year Program)

Computer-Aided Design is a universal language used to communicate ideas of design and construction details through the use of lines, symbols and dimensions. Successful completion of the program leads to the Associate in Applied Science Degree. (Students may elect only those courses required to develop a particular skill without enrolling in the entire program of study that leads to a degree.)

Students who wish to complete a program in two years are advised to use a sequence of courses recommended by their counselor or by the instructor. If a student wishes to attend college on less than a full-time basis, the program may be extended beyond two years.

GENERAL EDUCATION REQUIREMENTS (20 CR. HRS.)	**CR. HRS.**
BCOM 101 & 102 Business and Technical Communications	6
TMAT 102, 201 Technical Math	6
AMT 129 Introduction to Technology	3
BUS 127 Human Relations	3
PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201	1
HE 110 Industrial Safety and Workplace Training	1

COMPUTER-AIDED DRAFTING & DESIGN REQUIREMENTS (24 CR. HRS.)	
CAD 110 Introduction to Computer-Aided Drafting (2D)	3
CAD 120 Descriptive Geometry	3
CAD 130 Drafting Standards and Conventions I	3
CAD 140 Drafting Standards and Conventions II	3
CAD 210 Parametric Design I; Part Modeling	3
CAD 220 Parametric Design II; Assemblies	3
CAD 230 Tool Design	3
CAD 240 Team Design Projects	3

Students with no drafting experience will be required to take CAD 100 Introduction to Drafting.

TECHNICAL-RELATED REQUIREMENTS (12 CR. HRS.)	
MET 201 Metallurgy	3
MT 205 NC/CNC (Numerical Control/Computer Numerical Control)	3
MT 101A Basic Machining	3
W 101 Basic Welding	3

ELECTIVES (chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (6 CR. HRS. MINIMUM)

BUS 179 Keyboarding (or demonstrate proficiency) 1
COM 101 Oral Communications 3
CAD 100 Introduction to Drafting.....3
CAD 150 Blueprint Reading.....3
CAD 151 Geometric Dimensioning & Tolerancing 3
CAD 152 Residential Architecture 3
CAD 153 Commercial Architecture 3
CAD 250 Introduction to Solidworks 3D.....3
CAD 251 Die Design.....3
ELTC 101 Basic Electricity 3
HP 101 Hydraulics/Pneumatics 3
MET 101 Industrial Materials 3
MET 102 Basic Cast Metals 3
QC 101 Basic Quality Control 3
TECH 290CI Cooperative Internship Program 3
TMAT 202 Technical Math 3
Total 62

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

COMPUTER-AIDED DRAFTING & DESIGN CERTIFICATE

REQUIREMENTS	**CR. HRS.**
TMAT 102, 201 Technical Math	6
CAD 110 Introduction to Computer-Aided Drafting (2D)	3
CAD 120 Descriptive Geometry	3
CAD 130 Drafting Standards and Conventions I	3
CAD 140 Drafting Standards and Conventions II	3
CAD 210 Parametric Design I; Part Modeling	3
Total	**21**

BCOM 101 Business and Technical Communications is recommended.

ELECTRONICS TECHNOLOGY - A.A.S. (Two-Year Program)

This curriculum is designed to prepare a student for employment as a technician in the industrial and customer service areas. Successful completion of the program leads to the Associate in Applied Science Degree. (Students may elect only those courses required to develop a particular skill without enrolling in the entire program of study that leads to a degree.) Students who wish to complete a program in two years are advised to use a sequence of courses recommended by their counselor or by the instructor. If a student wishes to attend college on less than a full-time basis, the program may be extended beyond two years.

GENERAL EDUCATION REQUIREMENTS (19 CR. HRS.) **CR. HRS.**

BCOM 101 & 102 Business and Technical Communications 6
ELTR 111 Electronics Mathematics 5
AMT 129 Introduction to Technology 3
BUS 127 Human Relations 3
PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 1
HE 110 Industrial Safety and Workplace Training 1

ELECTRONICS TECHNOLOGY REQUIREMENTS (28 CR. HRS.)

ELTR 101 Electronics-Basic 4
ELTR 102A Active Devices & Circuit Analysis 4
ELTR 112 Digital Electronics I 3
ELTR 201A Communications (Principles and Servicing) 4
ELTR 202A Industrial Electronic Systems 4
ELTR 205 Electronic Circuit Design 3
ELTR 210 Introduction to Microprocessors 3
ELTR 211A Microcomputer Interfacing 3

TECHNICAL-RELATED REQUIREMENTS (3 CR. HRS.)

CAD 100 Introduction to Drafting
or CAD 130 Drafting Standards & Conventions I.....3

ELECTIVES (Chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (12 CR. HRS. Minimum)

COM 101 Oral Communications 3
ELTC 150 Industrial Electricity 3
ELTC 160 Programmable Controllers 3
ELTR/CIS 109 Personal Computer Maintenance 2
ELTR 212 Medical Instrumentation & Measurement 4
HP 101 Hydraulics/Pneumatics 3
BUS125 Supervision 3
MET 101 Industrial Materials 3
TECH 290CI Cooperative Internship Program 3-6

Total 62-66

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

ELECTRONICS TECHNOLOGY CERTIFICATE REQUIREMENTS	**CR.HRS.**
BCOM 101 Business and Technical Communications	3
ELTR 111 Electronics Mathematics	5
ELTR 101 Electronics-Basic	4
ELTR 102A Active Devices and Circuit Analysis	4
ELTR 112 Digital Electronics I	3
ELTR 201A Communications (Principles & Servicing)	4
ELTR 202A Industrial Electronics Systems	4
ELTR 205 Electronic Circuit Design	3
ELTR 210 Introduction to Microprocessors	3
ELTR 211A Microcomputer Interfacing	3
CAD 100 Introduction to Drafting **or** CAD 130 Drafting Stnadards and Conventions I	3
	Total 39

GRAPHIC DESIGN - A.A.S. (Two-Year Program)

The Graphic Design curriculum is designed to prepare students for entry into the field of graphic design with a broad background and experience in the creation of a wide variety of media for advertising, displays, sign and computer graphics to fit clients' needs. Though not fine artists, students need to be skilled in drawing and painting. Media creation and distribution is ever changing and so must be the knowledge and skills of the graphic designer. This program is not designed to transfer to a four-year institution. Any student wishing to transfer to a four-year college is urged to consult with an academic advisor. The certificate programs are intended to provide the student with foundation skills to gain immediate employment in the specialty, or continue in the AAS program.

GENERAL EDUCATION REQUIREMENTS (20 CR. HRS.)	**CR.HRS.**
BCOM 101 & 102 Business and Technical Communications	6
TMAT 101 & TMAT 102 Technical Math	6
BUS 127 Human Relations	3
AMT 129 Introduction to Technology	3
PEA 101A, PEA 103, PEA 104A, PEA 118 OR PEA 201	1
HE 110 Industrial Safety and Workplace Training	1

Continued on next page.

GRAPHIC DESIGN REQUIREMENTS (32 CR. HRS.)

GRD 120 Introduction to Graphic Design 3
GRD 130 Drawing for Graphic Design 3
GRD 140 Introduction to Typography 3
GRD 160 History of Graphic Design 3
GR 160 Digital Imaging 3
CIS 187 Multimedia Digitizing 3
GR 110 Introduction to Graphic Reproduction 3
GR 220 Electronic Publishing 3
GR 270 Computer Imaging for the Printing Industry 3
GR 180DP Digital Photography 1
GR 180PR Photo Restoration 1
GRD290CI Cooperative Internship 3

TECHNOLOGY RELATED REQUIREMENTS (7 CR. HRS.)

CIS 100 Introduction to Personal Computers (using Windows) 1
BUS 179 Keyboarding 1
GRD 107 Image Assembly 2
BUS 123 Business Law 3

ELECTIVES (3 CR. HRS.) (Chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval.

CIS 287 Personal Computer Digital Video Editing 3
GR 180WF Wide Format 1
CIS 119 Power Point 1
CIS 257 Designing Internet Applications 3
COM 212 Television Production 3

Total 62

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

GRAPHIC DESIGN CERTIFICATE PROGRAMS
Display Advertising (33 CR. HRS.)

GRD 120 Introduction to Graphic Design 3
GRD 130 Drawing for Graphic Design 3
GRD 140 Introduction to Typography 3
GR 160 Digital Imaging 3
GR 270 Computer Imaging for the Printing Industry 3
GR 110 Introduction to Graphic Reproduction 3
CIS 100 Introduction to Personal Computers (using Windows) 1
GR 200 Black & White Photography 3
GR 180DP Digital Photography 1

BUS 123 Business Law 3
GR 180VC Vinyl Cutting 1
GR 180PR Photo Restoration 1
GR 180WF Wide Format Printing 1
BUS 179 Keyboarding 1
BUS 263 Advertising Dynamics 3

Printing Prepress (25 CR. HRS.)
GRD 120 Introduction to Design 3
GRD 130 Drawing for Design 3
GRD 140 Introduction to Typography 3
GR 160 Digital Imaging 3
GR 220 Electronic Publishing 3
GR 110 Introduction to Graphic Reproduction 3
CIS 100 Introduction to Personal Computers (using Windows) 1
BUS 179 Keyboarding 1
BUS 123 Business Law 3
GRD 107 Image Assembly 2

Multimedia/Interactive (34 CR. HRS.)
GRD 120 Introduction to Design 3
GRD 130 Drawing for Design 3
GRD 140 Introduction to Typography 3
GR 160 Digital Imaging 3
GR 270 Computer Imaging for the Printing Industry 3
CIS 100 Introduction to Personal Computers (using Windows) 1
CIS 280 Java Programming 3
CIS 119 Power Point 1
BUS 123 Business Law 3
GRD 150 Multimedia Production 3
GR 180DP Digital Photography 1
BUS 179 Keyboarding 1
CIS 287 Personal Computer Digital Video Editing 3
CIS 187 Digitizing for Multimedia 3

Continued on next page.

Web Design (25 CR. HRS.)

GRD 120 Introduction to Graphic Design 3
GRD 167/CIS 167 Introduction to Internet Animation.....1
GR 160 Digital Imaging 3
CIS 120A Introduction to Computer Information Systems.....3
CIS 177 Introduction to HTML Editors.....1
CIS 193A Introduction to Operating Systems.....1
CIS 217 Introduction to Java Script Programming.....1
CIS 220 E-Business.....3
CIS 253A Database Design and Implementation.....3
CIS 257 Designing Internet Applications.....3
CIS 280 Java Programming 3

Video/Audio (29 CR. HRS.)

GRD 120 Introduction to Graphic Design 3
GRD 130 Drawing for Graphic Design 3
GRD 140 Introduction to Typography 3
CIS 100 Introduction to Personal Computers (using Windows) 1
BUS 179 Keyboarding 1
BUS 123 Business Law 3
CIS 287 Personal Computer Digital Video Editing 3
CIS 187 Digitizing for Multimedia 3
COM 102 Mass Media 3
COM 212 Television Production 3
COM 112 Audio Production 3

INDUSTRIAL TECHNOLOGY - A.A.S. (Two-Year Program)

This curriculum is designed to educate and train personnel to fill supervisory and technical positions related to industrial technology. Successful completion of the program leads to the degree of Associate in Applied Science. (Students may elect only those courses required to develop a particular skill without enrolling in the entire program of study that leads to a degree.) This degree is not designed for transfer.

GENERAL EDUCATION REQUIREMENTS (20 CR. HRS.) CR.HRS.

BCOM 101 & 102 Business and Technical Communications 6
TMAT 102, 201 Technical Math 6
AMT 129 Introduction to Technology 3
BUS 127 Human Relations 3
PEA 101A, PEA 103, PEA 104A, PEA 118 or PEA 201 1
HE 110 Industrial Safety and Workplace Training 1

TECHNICAL REQUIREMENTS (27 CR. HRS.)

MET 102 Basic Cast Metals 3
MET 201 Metallurgy 3
MET 101 Industrial Materials 3
CAD 150 Blueprint Reading 3
ELTC 101 Basic Electricity 3
MT 101A Basic Machining 3
W 101 Basic Welding 3
QC 101 Basic Quality Control 3
QC 105 Quality & Productivity Using SPC 3

ELECTIVES (Chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (16 CR HRS Minimum) CR. HRS.

BUS 125 Supervision 3
BUS 166 Quality Customer Service 3
CIS 157 Introduction to the Internet 1
CIS 160 Programming Small Computers in BASIC 3
CAD 130 Drafting Standards and Conventions I 3
CAD 110 Introduction to Computer-Aided Drafting (2D) 3
HP 101 Hydraulics/Pnuematic 3
MT 205 NC/CNC- Numerical Control/Computer Numerical Control 3
TECH 290CI Cooperative Internship 3

Total 63

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

INDUSTRIAL TECHNOLOGY CERTIFICATE REQUIREMENTS CR. HRS.

TMAT 102 Technical Mathematics II 3
MET 102 Basic Cast Metals 3
MET 101 Industrial Materials 3
CAD 150 Blueprint Reading 3
ELTC 101 Electricity-Basic 3
MT 101A Basic Machining 3
W 101 Basic Welding 3
QC 101 Basic Quality Control 3
AMT 129 Introduction to Technology 3

Total 27

BCOM 101 Business and Technical Communications is recommended.

MACHINING TECHNOLOGY - A.A.S. (Two-Year Program)

This curriculum is designed to prepare the student for that highly diversified area engaged in the production of machined objects required for the assembly of the products of modern industry. Successful completion of this program leads to the Associate in Applied Science Degree. (Students may elect only those courses required to develop a particular skill without enrolling in the entire program of study that leads to a degree.) Students who wish to complete a program in two years are advised to use a sequence of courses recommended by their counselor or by the instructor. If a student wishes to attend college on less than a full-time basis, the program may be extended beyond two years.

GENERAL EDUCATION REQUIREMENTS (20 CR HRS) CR. HRS.

BCOM 101 & 102 Business and Technical Communications 6
TMAT 101, 102, 201, 202 Technical Math (Choose two) 6
AMT 129 Introduction to Technology 3
BUS 127 Human Relations 3
PEA 101A, PEA 103, PEA 104A, PEA 118, or PEA 201 1
HE 110 Industrial Safety and Workplace Training 1

MACHINING TECHNOLOGY REQUIREMENTS (20 CR. HRS.)

MT 101A Basic Machining 3
MT 102 Intermediate Machining 3
MT 103 Advanced Machining 3
MT 230 Basic Die Making 3
MT 225 Mold Making 3
MT 206 2-D CAD/CAM Computer-Aided Design/Machining.....3
MT 216 3-D CAD/CAM Computer-Aided Design/Machining.....3

TECHNICAL-RELATED REQUIREMENTS (15 CR. HRS.)

MT 205 NC/CNC (Numerical Control/Computer Numerical Control) 3
CAD 100 Introduciton to Drafting OR
CAD 130 Drafting Standards and Conventions I 3
CAD 150 Blueprint Reading 3
W 101 Basic Welding 3
CAD 110 Introduction to Computer-Aided Drafting (2D) 3

ELECTIVES (Chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (6 CR. HRS. Minimum)

HP 101 Hydraulics/Pneumatics 3
MET 201 Metallurgy 3
QC 101 Basic Quality Control 3
BUS 125 Supervision 3
MET 102 Basic Cast Metals 3

MET 101 Industrial Materials 3
MT 240 Basic Machine Repair 3
MT 245 Advanced Machine Repair 3
TECH 290CI Cooperative Internship 3
Total 62

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

MACHINING TECHNOLOGY CERTIFICATE REQUIREMENTS CR. HRS.
TMAT 102 Technical Math II 3
MT 101A Machining-Basic 3
MT 205 NC/CNC Numerical Control/Computer Numerical Control 3
MET 101 Industrial Materials 3
AMT 129 Introduction to Technology 3
QC 101 Basic Quality Control 3
MT 102 Intermediate Machining 3
MT 103 Advanced Machining 3
CAD 150 Blueprint Reading 3
Total 27

MATERIALS TECHNOLOGY - A.A.S. (Two-Year Program)

Materials Technology is the study of new and modified materials emerging on the technology scene. The activities of the Materials Technologist are directed toward the understanding, testing, development, and applications of materials. These materials include metals, alloys, ceramics, semi-conductors, polymers, and composites. Materials Technology is basic to a wide range of industries, including automotive, electrical, and manufacturing, to name a few.

The mission of the Materials Technologist is to understand the underlying physical and chemical origins of the properties being evaluated. Covering all physical classes of materials, the program investigates the relationship between the structure and properties of materials and then applies the resulting knowledge to issues related to the design, processing, and performance of these materials.

GENERAL EDUCATION REQUIREMENTS (20 CR. HRS.) CR. HRS.
BCOM 101 & 102 Business and Technical Communications 6
TMAT102 & 201 Technical Math 6
AMT 129 Introduction to Technology 3
BUS 127 Human Relations 3
PEA 101A, PEA 103, PEA 104A, PEA 118 or PEA 201 1
HE 110 Industrial Safety and Workplace Training 1

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MATERIALS TECHNOLOGY REQUIREMENTS (21CR. HRS.)

MET 101 Industrial Materials 3
MET 102 Basic Cast Metals 3
MET 201 Metallurgy 3
MET 202 Advanced Metals 3
MET 203 Materials Testing. 3
MET 210 Pattern and Casting Design and Construction 3
MET 211 Gating and Risering 3

TECHNICAL-RELATED REQUIREMENTS (14 CR. HRS.)

MT 101A Basic Machining 3
QC 101 Basic Quality Control 3
CAD 150 Blueprint Reading 3
CHEM 100 Fundamentals of Chemistry, L&L 5

ELECTIVES (Chosen to supplement the students major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (9 CR. HRS. Minimum)

W 101 Basic Welding 3
HP 101 Hydraulics/Pneumatics 3
ELTC 101 Electricity- Basic 3
BUS 125 Supervision 3
TECH 290CI Cooperative Internship 3
MET 204 Plastics 3

Total 64

WELDING TECHNOLOGY - A.A.S. (Two-Year Program)

Welding Technology is a diversified program of skills dealing with the fabrication of metal products from rolled, stamped, forged or cast shapes. The type of metal, position of weldments, and use of structural shapes will be handled in a manner similar to that used in industrial processing. Selection of the proper welding methods, materials and procedures required will provide training in solving realistic problems found in the welding field. Students who wish to complete a program in two years are advised to use a sequence of courses recommended by their counselor or by the instructor. If a student wishes to attend college on less than a full-time basis, the program may be extended beyond two years. Students may wish to complete only the certificate program in welding.

GENERAL EDUCATION REQUIREMENTS (20 CR HRS) CR. HRS.

BCOM 101 & 102 Business and Technical Communications 6
TMAT 101, 102, 201 Technical Math (Choose two courses) 6
AMT 129 Introduction to Technology 3
BUS 127 Human Relations 3
PEA 101A, PEA 103, PEA 104A, PEA 118 or PEA 201 1
HE 110 Industrial Safety and Workplace Training 1

WELDING TECHNOLOGY REQUIREMENTS (21 CR. HRS.)

W 101 Basic Welding 3
W 102 Welding -Advanced. 3
W 103 MIG/TIG Welding. 3
W 201 Structural Welding 3
W 202 Pipe Welding 3
W 203 Welding Maintenance 3
W 204 Welding Supervision 3

TECHNICAL-RELATED REQUIREMENTS (15 CR. HRS.)

MET 201 Metallurgy 3
CAD 100 Intro. to Drafting OR
CAD 130 Drafting Standards and Conventions I 3
ELTC 101 Basic Electricity 3
MT 101A Basic Machining 3
CAD 150 Blueprint Reading 3

ELECTIVES (Chosen to supplement the student's major interest.) Electives must be chosen from the list of recommended electives or have departmental approval. (6 CR. HRS. Minimum)

QC 101 Basic Quality Control 3
BUS 125 Supervision 3
BUS 101 Principles of Accounting I 4
MET 102 Basic Cast Metals 3
BUS 161A Effective Selling 3
TECH 290CI Cooperative Internship 3

Total 62-64

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST. Students should be advised that it could be dangerous to wear contact lenses in any area where fumes from chemicals, solvents, gases, and areas where electrical flash may be present. You should plan to wear prescription eyeglasses if you take classes where these hazards exist.

WELDING TECHNOLOGY CERTIFICATE REQUIREMENTS CR. HRS.

TMAT101 Technical Math I 3
W 101 Basic Welding 3
W 102 Introduction to Advanced Welding 3
W 103 MIG/TIG Welding 3
W 201 Structural Welding 3
CAD 150 Blueprint Reading 3
ELTC 101 Electricity-Basic 3
MT 101A Machining-Basic 3

Total 24

BCOM 101 Business and Technical Communications is recommended.

ADDITIONAL INDUSTRIAL TECHNOLOGY CERTIFICATE PROGRAMS

These certificate programs are designed to prepare the student for immediate employment. The student may receive a certificate for completion of one or more courses in the programs.

STUDENTS MUST WEAR APPROVED SAFETY GLASSES WHERE HAZARDS EXIST.

DIGITAL ELECTRONICS TECHNOLOGY

CERTIFICATE REQUIREMENTS	**CR. HRS.**
ELTR 101 Basic Electronics or Instructor Approval	4
ELTR 102A Active Devices and Circuit Analysis	4
ELTR 112 Digital Electronics I	3
ELTR 205 Electronic Circuit Design	3
ELTR 210 Introduction to Microprocessors	3
ELTR 211A Microcomputer Interfacing and Robotic	3
	Total 20

INDUSTRIAL ELECTRICAL MAINTENANCE

CERTIFICATE REQUIREMENTS	**CR. HRS.**
AMT 129 Intro to Technology	3
ELTR 101 Basic Electronics	4
ELTR 111 Electronics Mathematics	5
ELTR 102A Active Devices and Circuit Analysis	5
ELTC 150 Industrial Electricity	3
ELTC 160 Programmable Logic Controllers	3
ELTC 152 National Electrical Code	3
ELTC 203 Advanced Programmable Controllers	3
HP 101 Hydraulics/ Pnuematics	3
W 101 Basic Welding	3
	Total 35

APPLIED ALTERNATIVE & RENEWABLE ENERGY CERTIFICATE

Muskegon Community College and Grand Valley State University are proud to announce a new and innovative partnership collaboration in the area of alternative and renewable energy systems. Recently, MCC and GVSU together began offering TECH 200 *Applied Alternative and Renewable Energy*, a course designed to introduce the concepts of alternative and renewable energy systems and provide real-world, practical perspectives on alternative energy technologies. The course was the first step toward the development of a new certificate program in Alternative and Renewable Energy, which MCC and GVSU now offer as a continuation of this joint venture. Please note a 2.0 (C) grade is required in each class listed.

CERTIFICATE REQUIREMENTS	**CR. HRS.**
CHEM 100 Chemistry Fundamentals OR	
CHEM 101 General and Inorganic Chemistry	4
CHEM 100A Chemistry Fundamentals Lab OR	
CHEM 101A General and Inorganic Lab	1
ELTC 101 L&L Electricity - Basic	3
TECH 200 AppliedAlternative and Renewable Energy	3
TMAT 102 Math - Technical II	3
	Total 14

INDUSTRIAL MAINTENANCE CERTIFICATE PROGRAM REQUIREMENTS

The Industrial Maintenance Certificate Program was developed in response to requests from local industrial employers. The changing nature of manufacturing processes has contributed to significant advancements in production technology with particular emphasis on quality and continuous improvement, thereby changing the approach to maintenance. This program will enhance maintenance expertise by providing reliable and consistent basic training, as well as performance-tested documentation of acquired skills.

	CR. HRS.
TMAT102 Technical Math II	3
CAD 150 Blueprint Reading	3
MT 101A Machining-Basic	3
W 101 Welding-Basic	3
HP 101 Hydraulics/Pneumatics	3
ELTC 101 Electricity-Basic	3
HE 110 Industrial Safety and Workplace Training	1
	Total 19

MICROPROCESSOR ELECTRONICS TECHNOLOGY

CERTIFICATE REQUIREMENTS	**CR. HRS,**
ELTR 101 Basic Electronics	3
ELTR 102A Active Devices and Circuit Analysis	3
ELTR 111 Electronic Mathematics	5
ELTR 112 Digital Electronics I	3
ELTR 113 Digital Electronics II	3
ELTR 205 Electronic Circuit Design	3
ELTR 210 Introduction to Microprocessors	3
ELTR 211A Microcomputer Interfacing and Robotics	3
	Total 26

PRODUCTION SUPERVISION

CERTIFICATE REQUIREMENTS	**CR. HRS.**
TMAT 101Technical Math I	3
AMT 129 Introduction to Technology	3
BUS 127 Human Relations	3
BCOM 101 Business and Technical Communications	3
QC 101 Quality Control	3
CAD 150 Blueprint Reading	3
MET 101 Industrial Materials	3
BUS 125 Supervision	3
*TECH 290CI Cooperative Internship	3-6
**Electives (Departmental Approval required)	0-6
	Total 27-36

Continued on next page.

****If the student is presently employed in a supervisory capacity** then appropriate elective courses may be chosen in place of the Cooperative Internship. Suggested electives may include credit for Life Experience in the supervision field, W 204 Welding Supervision, QC 105 Quality & Productivity Using SPC, or BUS 265 Total Quality Management.

QUALITY ASSURANCE CERTIFICATE REQUIREMENTS CR. HRS.

Suggestion: Courses should be taken in the following sequence:

TMAT 101 Technical Math I 3
BCOM 101 Business and Technical Communications 3
QC 101 Basic Quality Control 3
CAD 150 Blueprint Reading 3
QC 105 Quality and Productivity using SPC 3
BUS 127 Human Relations 3
CIS 101 Introduction to Electronic Spreadsheets 1

Total 19

Muskegon Community College – University Programs

In addition to the many traditional transfer opportunities available to MCC students, the college also partners with five universities in unique programs allowing occupational students to transfer to a high quality baccalaureate program. In all transfer programs, be sure to see an MCC counselor for details.

Capella University - Computer Information Systems

MCC and Capella University, located in Minneapolis, Minnesota, offer an innovative 2 + 2 online Bachelor's degree in Computer Information Systems. Students possessing an associate degree may complete all of their upper level classes in an online format, offering a convenient, timely method of study.

Ferris State University (www.ferris.edu/ucel)

Ferris State University provides Muskegon area residents access to three bachelor degree programs. The classes for these programs are offered in several formats, including one day a week, weekends, and online:

- ***BS Computer Information Systems Management*** - prepares you for leadership in all key areas of business and industry.
- ***BAS Industrial Technology and Management*** - If you have technical education, technical training, or military training in your background and if you are looking for a career move to an administrative role or an advanced technical position, this degree is definitely the one for you.
- ***Nursing RN to BSN*** - Be prepared to determine your impact on health care - whether you choose to remain in bedside nursing, or move to a management position.

In addition to degree programs offered locally, MCC and Ferris have many articulation plans for smooth transfer into many of the programs offered on the main campus in Big Rapids. For more information, call 231.777.0510 or visit our office in the Stevenson Center for Higher Education on the MCC Campus.

Franklin University (www.alliance.franklin.edu/go/muskegoncc)

Through a unique educational alliance with Muskegon Community College, you have the opportunity to earn a Bachelor of Science degree online from Franklin University in one of 12 majors. The CCA Program's online format provides the flexibility to attend class and complete your coursework without leaving your community. Throughout the completion of your bachelor's degree, Muskegon Community College and Franklin work together to provide all the resources you need to reach your educational goals.

Majors include: Accounting, Applied Management, Business Administration, Computer Science, Digital Communication, Healthcare Management, Human Resources Management, Information Technology, Management, Management Information Sciences, Marketing, and Public Safety Management. Students can also continue their education at the graduate level through Franklin University's 17-month on-line MBA.

Grand Valley State University (www.gvsu.edu/ce)

MCC has partnered with GVSU for many years to develop programs which enable the student to easily transfer into a baccalaureate degree program. We can help you get started by providing assistance with degree planning, credit transfer, and enrollment procedures. For more information, call 231-777-0505or visit our office in the Stevenson Center for Higher Education on the MCC campus.

In Muskegon we offer:

- Teacher Certification - Elementary Education - Social Sciences emphasis
- Bachelor of Business Administration - Core courses

Northwood University - Management (www.northwood.edu)

A unique 3 + 1 program exists between MCC and Northwood University. Students are able to enroll for three years of classes at MCC before transferring to Northwood's Grand Rapids program for their senior year of study. Northwood University offers a Bachelor of Business Administration degree with an emphasis in Management.

Western Michigan University (www.mu.wmich.edu)

BSE Manufacturing Engineering

This degree is a cooperative partnership between MCC and WMU. All courses are offered in Muskegon and the entire degree can be completed in four years. Foundation and pre-engineering courses are offered by MCC, and manufacturing core classes are offered by WMU. Resident faculty are available for advising.

BS Interdisciplinary Health Services

This degree completion curriculum appeals to two audiences: licensed allied health providers who desire a baccalaureate degree, and people with a non-clinical associate degree who desire a baccalaureate degree to work in a health care setting.

BS Occupational Education Studies

This unique baccalaureate degree provides graduates with a Michigan vocational education endorsement. Admission is limited to those with an applied science associate degree. Some courses are offered only in Kalamazoo.

MCC and WMU Transfer Credit Equivalencies may be found on the web at *www.wmich.edu/ce*.

Additional Partnerships

Water Resource Management

1 + 1 Program (72 Credits)

The articulated program will allow a student to complete an Associate in Applied Science Degree in Water Resource Management and meet the requirements for water and wastewater licensure in the State of Michigan.

Graduation Requirements include:

Minimum: 72 credits
Minimum: 2.0 cumulative GPA

Courses Taken at Muskegon Community College

	Credits
CHEM 101, 101A General and Inorganic Chemistry & Lab	5
CHEM 102, 102 A General and Inorganic Chemistry & Lab	5
MATH 109 or higher College Algebra with Applications	4
ENG 101 English Composition	3
COM 101 Oral Communications	3
PSCI 111 Introduction to American Government	4
BIOL 104 Introductory Biology II	4
And one Human Experience or Human Cultures Elective	4
	Total 32

Courses Taken at Bay de Noc Community College

* = Courses offered online

Semester 3	**Credits**
WT240 Environmental Analysis	5
WT270 Water in Motion	4*
WT110 Wastewater Operations & Management	4*
WT260 Current Issues for Managers	3*
	Total 16

Semester 4	**Credits**
WT250 Water Analysis & Techniques	5
WT220 Industrial Solutions	3*
WT255 Mechanics & Instrumentation	3
WT120 Water Operations & Management	4*
WT230 Aquatics	3*
WT272 Professional Field Experience (water)	**3**
WT273 Professional Field Experience (wastewater)	**3**
Bold = classes taken second eight (8) weeks	**Total 24**

Professional Truck Driver Training

Nearly three million people work as truck drivers, hauling goods locally and across the country on our nation's highways. Many skills are required to be a professional driver and typically they involve being able to work with many people, staying current on transportation laws, understanding trailer load requirements, having mechanical aptitude, following instructions, and safety procedures. Truck drivers often have long hours on the road, but enjoy good salaries and independence. Job prospects for trained, licensed drivers are expected to remain strong through the next decade.

Training Highlights

Complete vehicle training to prepare you for an entry-level position in the trucking industry, plus a lot more! Designed for individuals with little or no commercial driving experience, Muskegon Community College's Professional Truck Driver Training includes everything you need to receive a Commercial Driver's License.

- You will receive DOT rules, regulations and log books; training to obtain CDL learner's permit and endorsement preparation; and thorough instruction in map reading, trip planning, and yard and road vehicle handling.
- You will receive a certificate after successfully completing the course.
- WorkKeys Career Readiness Certificate
- CPR Training and Certificate
- Basic First Aid Training
- Maintaining Balance - Life on the Road
- Homeland Security Highway Watch Certificate
- You will complete the Michigan Secretary of State administered Class A test.

Complete the course in just five weeks by attending full-time. Part-time evening classes are also available for those who are unable to attend full-time. We work with many trucking companies that will pre-hire students. Most students receive job offers prior to completion of their training.

Entry Requirements

A high school diploma or GED is *not* required. Individuals must be able to read and write the English language, be over 21, be able to meet the Federal Department of Transportation physical requirements and have a valid driver's license at the time of registration. The course trains individuals 18 and over but has limited job placement assistance for individuals under the age of 21.

Additional Items (not part of course fee):

- Copy of Motor Vehicle Report from the Secretary of State's Office (Driver's License Bureau)
- DOT drug screen and physical
- CDL learner's permit
- Class A license plus any endorsements

The following may disqualify you from entering the truck driving workforce:

- A driving record inconsistent with industry standards for entry-level driving positions
- Any substance-related violations on your motor vehicle record in the past three years
- Recent felony convictions or criminal background
- History of drug or alcohol abuse
- Permanent disability or physical limitations

Training is scheduled around holidays and interruptions caused by weather or unforeseen circumstances. For more information, contact CDL Coordinator Chuck Mulder at 231.777.0200, or toll-free at 1.888.503.5151.