

HEALTH SCIENCES CAREER PATHWAY

This pathway includes careers related to the promotion of health as well as the treatment of injuries, conditions and diseases. This may include medicine, dentistry, nursing, therapy and rehabilitation, nutrition, fitness and hygiene and animal health care.

Students in nursing or allied health programs that require clinical rotations at local hospitals may be required to submit to a drug test. If the student tests positive for illicit drugs he/she will be removed from the program. Criminal background checks may also be performed and may prevent admission if failed.

DEGREES/CERTIFICATES – ALLIED HEALTH

- Cardiac Sonography
- Emergency Medical Service, EMT
- General Sonography
- Medical Assistant
- Medical Receptionist/Transcriptionist
- Medical Receptionist/Insurance Biller
- Radiography
- Vascular Sonography

DEGREES/CERTIFICATES – NURSING

- Nursing
- Nursing (LPN to ADN)
- Practical Nurse

SKILL SET CREDENTIAL

The “Skill Set Credentials” process is a building block approach to completing a trade certificate program. Students can choose to complete the skill set credentials depending upon the level of skill and knowledge desired. Students can apply for a skill set credential upon completion of the required courses.

TRANSFER PROGRAMS IN HEALTH SCIENCES PATHWAY

The first two years of college education usually consist of general education courses, introductory courses in the major and/or program of study, and selected electives. Refer to page 36 for additional information on transfer and MACRAO. Academic advisors will assist students in planning their transfer program. They can also provide transfer guide sheets indicating

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JCC courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included:

- A joint program agreement between Jackson Community College and Kellogg Community College - [AAS]
- Allied Health with Siena Heights, JCC & University of Michigan - [BSN]
- Dental Hygiene
- Medical Sciences [pre-medicine, pre-dentistry, pre-chiropractic]
- Physical Therapy
- Pre-Veterinary Science

GENERAL SONOGRAPHY — ASSOCIATE IN APPLIED SCIENCE

A sonographer is the allied health professional who, for diagnostic purposes, uses high frequency sound waves to create cross-sectional images of the patient's anatomy. Sonographers work in professional harmony with both the radiologist and the clinical physician. Sonographers are required to demonstrate a great deal of independent judgment.

The general sonography program is an online program accredited by Commission for Accreditation of Allied Health Educational Programs (CAAHEP) in the United States. It is a program leading to an Associate in Applied Science degree. The curriculum consists of integrated educational and clinical course work with a minimum of 1,350 supervised clinical hours in an approved clinical education affiliate.

The program prepares the students for employment in two specialties (abdomen/superficial structures & obstetrics/gynecology) within the field of general sonography; positions are located within hospitals, medical clinics, and other diagnostic imaging institutions. Upon successful completion, students are eligible to apply for the American Registry for Diagnostic Medical Sonography (ARDMS) exams in Physics and Instrumentation, Abdomen/Superficial structures and Obstetrics/Gynecology.

There are special admissions requirements to the sonography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a “points system.” Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by January 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- DMS Admission Committee conducts interviews.
- Applicants notified by mail for Spring semester start.

General education prerequisites and related requirement courses must be completed before admission to the program.

Minimum credits:	74
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 120:	3.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
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MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra or higher	3
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SCIENCE — (4 credits)

BIO 155 Human Anatomy & Physiology	5
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SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	4
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HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

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

RELATED REQUIREMENTS – (18 credits)

CIS 101 Introduction to Computer Systems	3
DMS 100 Introduction to Diagnostic Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
HOC 130 Introduction to Health Occupations	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals or SPH 240 Interpersonal Communications	3

GENERAL SONOGRAPHY CORE REQUIREMENTS – (40 credits)

DMS 101 Sonographic Orientation	3
DMS 105 Sonographic Technique	3
DMS 110 Interpretation I	4
DMS 122 Clinical Experience I	6
DMS 206 Sonography Instrumentation	4
DMS 211 Interpretation II	4
DMS 212 Interpretation III	4
DMS 223 Clinical Experience II	6
DMS 224 Clinical Experience III	6

OPTIONAL MULTI-SKILLED ELECTIVES —

(Not required for the degree)

MOA 211 Medical Assistant Techniques II	4
NUR 121 Pharmacology	3
LPN 132 Medications	3

REQUIRED COURSE SEQUENCE

Spring Semester

DMS 101

Fall Semester

DMS 105, DMS 110, DMS 122

Winter Semester

DMS 206, DMS 211, DMS 223

Spring Semester

DMS 212, DMS 224

GENERAL SONOGRAPHY — CERTIFICATE

Students must have previously earned American Registry for Diagnostic Medical Sonography (ARDMS) credentials, e.g., RDMS, RVT, RDCS; or an AAS degree from an accredited program in radiography, nursing, medical assisting, emergency medical services, respiratory therapy, physical therapy assisting or other patient related allied health professions. Students who have earned a baccalaureate degree in a major other than nursing or allied health will be required to meet or show equivalency for all DMS prerequisite course requirements including the following courses: Anatomy and Physiology, Medical Terminology, Introduction to Diagnostic Medical

Imaging, Introduction to Sonographic Instrumentation, Introduction to Computer Systems and Introduction to Health Occupations. Please see program coordinator to assure eligibility.

There are special admissions requirements to the sonography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a "points system." Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by January 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- DMS Admission Committee conducts interviews.
- Applicants notified by mail for Spring semester start.

General education prerequisites and related requirement courses must be completed before admission to the program.

Minimum credits:	59
(*53 credits with previous allied health degree)	
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 120:	3.0
Minimum JCC credits:	42
MACRAO agreement:	No

RELATED REQUIREMENTS – (19 credits)

BIO 155 Human Anatomy & Physiology	4-5
CIS 101 Introduction to Computer Systems	3
DMS 100* Intro to Diagnostic Medical Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
HOC 130** Introduction to Health Occupations	3
MOA 120 Medical Terminology	3

GENERAL SONOGRAPHY CORE REQUIREMENTS* – (40 credits)

DMS 101 Sonographic Orientation	3
DMS 105 Sonographic Techniques	3
DMS 110 Sonographic Interpretation I	4
DMS 122 Clinical Experience I	6
DMS 206 Sonographic Instrumentation	4
DMS 211 Sonographic Interpretation II	4
DMS 212 Sonographic Interpretation III	4
DMS 223 Clinical Experience II	6
DMS 224 Clinical Experience III	6

**Students must be admitted into the program before registering for any courses in the core requirements.*

OPTIONAL MULTI-SKILLED ELECTIVES – (Not required for the degree)

MOA 211 Medical Assistant Techniques II	4
NUR 121 Pharmacology	3
LPN 132 Medications	3

**This course may be waived for registered radiographers.*

***This course is required of students who do not possess an allied health credential but have earned a baccalaureate degree in a major other than allied health.*

REQUIRED COURSE SEQUENCE

Spring Semester

DMS 101

Fall Semester

DMS 105, DMS 110, DMS 122

Winter Semester

DMS 206, DMS 211, DMS 223

Spring Semester

DMS 212, DMS 224

VASCULAR SONOGRAPHY – ASSOCIATE IN APPLIED SCIENCE

A vascular sonographer is a highly skilled allied health professional who performs arterial and venous diagnostic procedures using high frequency sound waves. A vascular sonographer operates a variety of complex diagnostic and monitoring equipment, as well as numerous ancillary devices.

The vascular sonographer performs carotid duplex scanning, lower and upper extremity Doppler examinations, venous duplex scans, abdominal vascular exams, evaluates test results, monitors physiological states of the patient, conducts patient education, and maintains accurate records and protocols during and after procedures. A thorough understanding of hemodynamics and pathophysiology is required.

The vascular sonography program is an online program accredited by Commission for Accreditation of Allied Health Education Programs (CAAHEP) in the United States. It is a program leading to an Associate in Applied Science degree. The curriculum consists of integrated educational and clinical course work with a minimum of 1,100 supervised clinical hours with an approved clinical education affiliate. The program is designed to prepare the student for employment in the field of vascular sonography. Vascular positions are located within hospitals, medical clinics, and other diagnostic imaging health institutions. Upon successful completion, students are eligible to apply for certification exams through the American Registry for Diagnostic Medical Sonography and, if successful, use the credentials RVT (Registered Vascular Technologist).

Applicants who have earned credentials in other allied health disciplines (e.g., RT, RDMS, RDCS, RN) may have partial prerequisite work waived (see vascular certificate program on page 76).

There are special admissions requirements to the sonography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a "points system." Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by January 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- DMS Admission Committee conducts interviews.
- Applicants notified by mail for Spring semester start.

General education prerequisites and related requirement courses must be completed before admission to the program.

Minimum credits:	67
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 120:	3.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS – (17 credits)

ENGLISH – (3 credits)

ENG 131 Writing Experience	3
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MATHEMATICS – (3-4 credits)

MTH 131 Intermediate Algebra or higher	3
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SCIENCE – (4 credits)

BIO 155 Human Anatomy & Physiology	5
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SOCIAL SCIENCE – (3 credits)

PSY 140 Introduction to Psychology	4
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HUMANITIES – (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3

ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS – (1 credit)

Choose one of the following:

HPF 160 Wellness	1
HPF 168 Weight Training & Conditioning	2
HPF 221 Jazz Technique	3
HPF 277 Stress Management	2

RELATED REQUIREMENTS - (18 credits)

CIS 101 Introduction to Computer Systems	3
DMS 100 Introduction to Diagnostic Imaging	3
DMS 104 Intro to Sonographic Instrumentation	3
HOC 130 Introduction to Health Occupations	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals or SPH 240 Interpersonal Communication	3

VASCULAR CORE REQUIREMENTS* – (32 credits)

DMS 107 Sonographic Orientation-Vascular	3
DMS 151 Peripheral Arterial I	3
DMS 152 Peripheral Arterial II	3
DMS 155 Peripheral Venous	3
DMS 161 Vascular Clinical I (300 hours)	4
DMS 206 Sonographic Instrumentation	4
DMS 251 Cerebrovascular I	3
DMS 253 Cerebrovascular II	1
DMS 265 Vascular Clinical II (300 hours)	4
DMS 266 Vascular Clinical III (300 hours)	4

**Students must be admitted into the program before registering for any courses in the core requirements.*

REQUIRED COURSE SEQUENCE

Spring Semester

DMS 107

Fall Semester

DMS 151, DMS 155, DMS 161

Winter Semester

DMS 152, DMS 206, DMS 251, DMS 265

Spring Semester

DMS 253, DMS 266

VASCULAR SONOGRAPHY – CERTIFICATE

Students must have previously earned American Registry for Diagnostic Medical Sonography (ARDMS) credentials, e.g., RDMS, RVT, RDCS; or an AAS degree from an accredited program in radiography, nursing, medical assisting, emergency medical services, respiratory therapy, physical therapy assisting or other allied health profession. Students who have earned a baccalaureate degree in a major other than nursing or allied health will be required to meet or show equivalency for all DMS prerequisite course requirements including the following courses: Anatomy and Physiology, Medical Terminology, Introduction to Diagnostic Medical Imaging, Introduction to Sonographic Instrumentation, Introduction to Computer Systems and Introduction to Health Occupations. Please see program coordinator to assure eligibility.

There are special admissions requirements to the sonography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a "points system." Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by January 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- DMS Admission Committee conducts interviews.
- Applicants notified by mail for Spring semester start.

General education prerequisites and related requirement courses must be completed before admission to the program.

Minimum credits:	51*
(*39 credits with previous Allied Health degree)	
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grade in BIO 155, HOC 130, and MOA 120:	3.0
Minimum JCC credits:	12
MACRAO agreement:	No

RELATED REQUIREMENTS – (19 credits)

BIO 155 Human Anatomy & Physiology	4-5
CIS 101 Introduction to Computer Systems	3
DMS 100* Introduction to Diagnostic Imaging	3
DMS 104* Intro to Sonographic Instrumentation	3

HOC 130* Introduction to Health Occupations	3
MOA 120 Medical Terminology	3

VASCULAR CORE REQUIREMENTS – (32 credits)

DMS 107* Sonographic Orientation-Vascular	3
DMS 151 Peripheral Arterial I	3
DMS 152 Peripheral Arterial II	3
DMS 155 Peripheral Venous	3
DMS 206 Sonographic Instrumentation	4
DMS 251 Cerebrovascular I	3
DMS 253 Cerebrovascular II	1
DMS 161 Vascular Clinical I (300 hours)	4
DMS 265 Vascular Clinical II (300 hours)	4
DMS 266 Vascular Clinical III (300 hours)	4

**HOC 130, DMS 100, 107, and 104 may be waived through consultation with program coordinator and evidence of current health credential.*

REQUIRED COURSE SEQUENCE

Spring Semester

DMS 107

Fall Semester

DMS 151, DMS 155, DMS 161

Winter Semester

DMS 152, DMS 206, DMS 251, DMS 265

Spring Semester

DMS 253, DMS 266

CARDIAC SONOGRAPHY – ASSOCIATE IN APPLIED SCIENCE

A cardiac sonographer (echocardiographer) is the allied health professional who, after an extensive and comprehensive educational process, is qualified to perform an echocardiogram (ultrasound of the heart). The primary role of the cardiac sonographer is to obtain diagnostic recordings and measurements from the ultrasound image of the heart, including hemodynamic information. This individual assumes great responsibility for the performance of this exam. The techniques for obtaining the required images and recordings require great skill. A thorough understanding of cardiac anatomy, physiology, hemodynamics, and pathophysiology is required.

The cardiac sonography program is an online program accredited by Commission for Accreditation of Allied Health Education Programs (CAAHEP) in the United States. It is a program leading to an Associate in Applied Science degree curriculum consists of integrated didactic and clinical coursework with a minimum of 1,136 supervised clinical hours

with an approved clinical education affiliate. This program is designed to prepare the student for employment as a cardiac sonographer with positions located in hospitals, medical clinics, and other diagnostic imaging facilities.

Upon successful completion of the cardiac sonography program, students are eligible to apply for certification exams through the American Registry for Diagnostic Medical Sonographers (ARDMS).

Applicants who have earned credentials in other allied health disciplines (e.g., RT, RDMS, RVT, RN) may have partial prerequisite coursework waived. Please see cardiac sonography certificate program

There are special admissions requirements to the sonography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a "points system." Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by August 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- DMS Admission Committee conducts interviews.
- Applicants notified by mail for Winter semester start.

General education prerequisites and related requirement courses must be completed before admission to the program.

Minimum credits:	68
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 120:	3.0
Minimum JCC credits:	32
MACRAO agreement:	No

GENERAL EDUCATION PREREQUISITES — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
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MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra or higher	3
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SCIENCE — (4 credits)

BIO 155 Human Anatomy & Physiology	5
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SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	4
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HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
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ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

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

RELATED REQUIREMENTS — (18 credits)

CIS 101 Intro to Information Technology	3
DMS 100 Introduction to Diagnostic Medical Imaging	3
DMS 104 Introduction to Sonographic Instrumentation	3
HOC 130 Introduction to Health Occupations	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals or SPH 240 Interpersonal Communications	3

CARDIAC SONOGRAPHY CORE REQUIREMENTS* — (33 credits)

DMS 140 Sonographic Orientation and Technique	3
DMS 141 Adult Echo I	4
DMS 143 Clinical I (240 hrs.)	3
DMS 144 Cardiovascular Principles	3
DMS 147 Clinical II (384 hrs.)	5
DMS 206 Sonographic Instrumentation	4
DMS 240 Adult Echo II	4
DMS 242 Clinical III (512 hrs.)	7

**Students must be admitted into the program before registering for any courses in the core requirements.*

REQUIRED COURSE SEQUENCE**Winter Semester**

DMS 140, DMS 141, DMS 143

Spring Semester

DMS 144, DMS 147

Fall Semester

DMS 206, DMS 240, DMS 242

CARDIAC SONOGRAPHY – CERTIFICATE

A cardiac sonographer (echocardiographer) is the allied health professional who, after an extensive and comprehensive educational process, is qualified to perform an echocardiogram (ultrasound of the heart). The primary role of the cardiac sonographer is to obtain diagnostic recordings and measurements from the ultrasound image of the heart, including hemodynamic information. This individual assumes great responsibility for the performance of this exam. The techniques for obtaining the required images and recordings require great skill. A thorough understanding of cardiac anatomy, physiology, hemodynamics, and pathophysiology is required.

Students eligible for the cardiac sonography certificate program must have previously earned ARDMS credentials (RDMS, RVT) or an AAS degree from an accredited program in radiography, nursing, medical assisting, emergency medical services, respiratory therapy, physical therapy, or other patient care related allied health profession. Students that possess a baccalaureate degree may also qualify for the certificate program.

All students that qualify for the cardiac sonography certificate program will be required to meet or show equivalency for all DMS prerequisite course requirements stated below.

The cardiac sonography curriculum consists of integrated didactic and clinical coursework with a minimum of 1,136 supervised clinical hours with an approved clinical education affiliate. Prerequisite courses must be completed prior to applying for the program. This program is designed to prepare the student for employment as a cardiac sonographer with positions located in hospitals, medical clinics, and other diagnostic imaging facilities.

Upon successful completion of the cardiac sonography program, students are eligible to apply for certification exams through the American Registry for Diagnostic Medical Sonographers (ARDMS).

There are special admissions requirements to the sonography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a "points system." Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by August 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- DMS Admission Committee conducts interviews.
- Applicants notified by mail for Winter semester start.

General Education prerequisites and related requirement courses must be completed before admission to the program

Minimum credits:	52*
(*43 credits with previous allied health degree)	
Minimum Cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grade in BIO 155, HOC 130 and MOA 120:	3.0
Minimum JCC credits:	32
MACRAO agreement:	No

RELATED REQUIREMENTS – (19 credits)

BIO 155 Human Anatomy & Physiology	4-5
DMS 100* Introduction to Diagnostic Imaging	3
DMS 104* Introduction to Sonographic Instrumentation	3
CIS 101 Introduction to Computer Systems	3
HOC 130* Introduction to Health Occupations	3
MOA 120 Medical Terminology	3

**May be waived/substituted through consultation with program coordinator and evidence of current health credential.*

CARDIAC SONOGRAPHY CORE REQUIREMENTS – (33 CREDITS)

DMS 140 Echo Orientation & Technique	3
DMS 141 Adult Echo I	4
DMS 143 Clinical I (240 hrs)	3
DMS 144 Cardiovascular Principles	3
DMS 147 Clinical II (384 hrs)	5
DMS 240 Adult Echo II	4
DMS 242 Clinical III (512 hrs)	7
DMS 206 Sonographic Instrumentation	4

REQUIRED COURSE SEQUENCE**Winter Semester**

DMS 140, DMS 141, DMS 143,

Spring Semester

DMS 144, DMS 147

Fall Semester

DMS 206, DMS 240, DMS 242

EMERGENCY MEDICAL SERVICES — ASSOCIATE IN APPLIED SCIENCE

In cooperation with emergency medical services agencies in the community we offer approved basic EMT and paramedic courses. This requires 12-44 hours and is taken over two to four semesters. These credits may be combined with additional courses to obtain an Associate in Applied Science - Emergency Medical Services degree. The curriculum meets the requirements of the U.S. Department of Transportation and is approved by the Michigan Department of Health EMS Division.

Upon successful completion of the program, candidates are eligible to take the State of Michigan EMT or Paramedic exams to become licensed as an EMT or paramedic.

Minimum credits:	82
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
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MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra or higher	3
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SCIENCE — (4 credits)

BIO 155 Human Anatomy & Physiology	5
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SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	4
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HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story & Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3
MUS 133 Music Education	3

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

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

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

RELATED REQUIREMENTS — (21 credits)

MOA 120 Medical Terminology	3
EMS 125 EMT: Ambulance	6
EMS 126 EMT: Ambulance	6
NUR 121 Pharmacology	3
SPH 231 Communication Fundamentals or SPH 240 Interpersonal Communication	3

EMERGENCY MEDICAL SERVICES CORE

REQUIREMENTS — (44 credits)

EMS 211 Paramedic I	8
EMS 212 Paramedic Lab I	2
EMS 213 Paramedic Clinical I	2
EMS 221 Paramedic II	8
EMS 222 Paramedic Lab II	2
EMS 223 Paramedic Clinical II	2
EMS 231 Paramedic III	8
EMS 232 Paramedic Lab III	2
EMS 233 Paramedic Clinical III	2
EMS 242 Paramedic IV - Lab	2
EMS 243 Paramedic IV - Clinical	6

EMERGENCY MEDICAL SERVICES — CERTIFICATE

Minimum credits:	66
Minimum cumulative GPA:	2.0
Minimum grade in all course:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

RELATED REQUIREMENTS — (10 credits)

BIO 155 Human Anatomy & Physiology	4-5
MOA 120 Medical Terminology	3
NUR 121 Pharmacology	3

EMERGENCY MEDICAL SERVICES CORE

REQUIREMENTS — (56 credits)

EMS 125 EMT: Ambulance	6
EMS 126 EMT: Ambulance	6

EMS 211 Paramedic I	8
EMS 212 Paramedic Lab I	2
EMS 213 Paramedic Clinical I	2
EMS 221 Paramedic II	8
EMS 222 Paramedic Lab II	2
EMS 223 Paramedic Clinical II	2
EMS 231 Paramedic III	8
EMS 232 Paramedic Lab III	2
EMS 233 Paramedic Clinical III	2
EMS 242 Paramedic IV - Lab	2
EMS 243 Paramedic IV - Clinical	6

SKILL SET CREDENTIAL — BASIC EMERGENCY MEDICAL TECHNICIAN

Jackson Community College in cooperation with emergency medical service agencies in the community offers approved Basic EMT. The Basic EMT training requires 12 credit hours and is taken over two semesters. The curriculum meets the requirements of the U.S. Department of Transportation and is approved by the Michigan Department of Health EMS Division.

Upon successful completion of these courses, candidates are eligible to take the State of Michigan exam to become a licensed EMT.

Minimum credits:	12
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum JCC credits:	12
MACRAO agreement:	No

REQUIRED COURSES — (12 credits)

EMS 125 EMT: Ambulance	6
EMS 126 EMT: Ambulance	6

OPTIONAL SUGGESTED ELECTIVES

MOA 120 Medical Terminology	3
MOA 141 Body Structure and Function	4
SPH 240 Interpersonal Communication or SPH 231 Communication Fundamentals	3

MEDICAL ASSISTANT — ASSOCIATE IN APPLIED SCIENCE

The medical assistant-AAS program prepares the student for an entry-level position as a medical assistant in a medical office, clinic, hospital or other health care facility. Clinical (diagnostic and treatment), administrative (communications and business) skills and transdisciplinary knowledge and skills are included in the course work. A 225-hour non-paid externship experience with a licensed health care practitioner is the capstone course.

All students complete the medical assistant certificate program which is accredited by AAMA/CAAHEP. Upon

completion, the student becomes eligible for the AAMA Medical Assistant Certification exam to be a Certified Medical Assistant (CMA). The medical assistant certificate program and completion of the general education requirements listed qualifies the student for an Associate in Applied Science-Medical Assistant.

Prerequisite requirements: Keyboarding skills of 45 WPM or CIS 110.

Minimum credits:	60
Minimum grade in all courses	2.0
Minimum grade in MOA 111, MOA 120, MOA 211 and MOA 240:	2.5
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
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MATHEMATICS— (3 credits)

MTH 120 Beginning Algebra or higher	3
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SCIENCE — (4 credits)

Choose one of the following:

BIO 131 General Biology	4
BIO 132 Human Biology	4
BIO 155 Human Anatomy & Physiology	5
BIO 220 Microbiology	4
CEM 131 Fundamentals of Chemistry	4
CEM 132 Fundamental of Organic & Biological Chemistry ..	4
CEM 137 Chemistry of Life	4

SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	4
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HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 246 Short Story and Novel	3
ENG 247 Poetry and Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3
ENG 254 Children's Literature	3
ENG 255 American Literature 19th Century	3
ENG 256 American Literature 20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3

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

HEALTH/PHYSICAL FITNESS – (1 credit)

Choose one of the following:

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

RELATED REQUIREMENTS – (11 credits)

DMS 100 Introduction to Diagnostic Imaging 3
 CIS 101 Introduction to Computer Systems 3
 NUR 121 Pharmacology or
 LPN 132 Medications 3
 EMS 110 CPR & First Aid or
 HOC 130 Introduction to Health Occupations 2

MEDICAL ASSISTANT CORE REQUIREMENTS – (31 credits)

MOA 111 Medical Assistant Techniques I 3
 MOA 112 Insurance, Reports, Law and Ethics 3
 MOA 120 Medical Terminology 3
 MOA 141 Body Structure & Function or
 LPN 141 Body Structure & Function or
 BIO 155 Human Anatomy & Physiology 4
 MOA 145 Normal/Therapeutic Nutrition or
 LPN 145 Normal/Therapeutic Nutrition or
 NUR 207 Normal/Therapeutic Nutrition 3
 MOA 204 Externship (225 hours + 30 hr. seminar) 5
 MOA 211 Medical Assistant Techniques II 4
 MOA 240 Medical Office Procedures 3
 MOA 241 Medical Records 3

ELECTIVES

Select electives from the following to meet 60 credits required for degree:

MOA 230 Medical Machine Transcription 3
 MOA 235 Advanced Medical Transcription 3
 MOA 242 Advanced Medical Billing 3
 BIO 220 Microbiology 4

MEDICAL ASSISTANT — CERTIFICATE

The medical assistant certificate program prepares the student for an entry-level position as a medical assistant in a medical office, clinic, hospital or other health care facility. Clinical (diagnostic and treatment), administrative (communications and business) skills and transdisciplinary

knowledge and skills are included in the course work. A 225-hour non-paid externship experience with a licensed health care practitioner is the capstone course.

Upon successful completion of this program, the student is eligible for a professional credential by passing the American Association of Medical Assistant (AAMA) examination to become a Certified Medical Assistant (CMA). This program is accredited by the AAMA and the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and meets national standards for quality. Students are welcome to enter this program in any semester, but must meet prerequisite course and grade level requirements to process in the program and qualify for MOA 204 Externship.

Prerequisite requirements: Keyboarding skills of 45 WPM or CIS 110.

Minimum credits: 52
 Minimum cumulative GPA: 2.0
 Minimum grade in all courses 2.0
 Minimum grade in MOA 111, MOA 120, MOA 211 and
 MOA 240: 2.5
 Minimum JCC credits: 12
 MACRAO agreement: No

GENERAL EDUCATION REQUIREMENTS – (10 credits)

ENG 131 Writing Experience 3
 MTH 120 Beginning Algebra or higher 3
 PSY 140 Introduction to Psychology 4

RELATED REQUIREMENTS – (11 credits)

DMS 100 Introduction to Diagnostic Imaging 3
 CIS 101 Introduction to Computer Systems 3
 NUR 121 Pharmacology or
 LPN 132 Medications 3
 EMS 110 CPR & First Aid or
 HOC 130 Introduction to Health Occupations 2

MEDICAL ASSISTANT CORE REQUIREMENTS – (31 credits)

MOA 111 Medical Assistant Techniques I 3
 MOA 112 Insurance, Reports, Law and Ethics 3
 MOA 120 Medical Terminology 3
 MOA 141 Body Structure & Function or
 LPN 141 Body Structure & Function or
 BIO 155 Human Anatomy & Physiology 4
 MOA 145 Normal/Therapeutic Nutrition or
 LPN 145 Normal/Therapeutic Nutrition or
 NUR 207 Normal/Therapeutic Nutrition 3
 MOA 204 Externship (225 hours + 30 hr. seminar) 5
 MOA 211 Medical Assistant Techniques II 4
 MOA 240 Medical Office Procedures 3
 MOA 241 Medical Records 3

OPTIONAL MULTI-SKILLED ELECTIVES**(Not needed for this certificate)**

MOA 230 Medical Machine Transcription	3
MOA 235 Advanced Medical Transcription	3
MOA 242 Advanced Medical Billing	3
BIO 220 Microbiology	4

* *Program coordinator approval needed to register for MOA 204. Student must validate 2.5 or better in MOA 120, MOA 111, MOA 211, and MOA 240 for entrance into this course.*

Graduates may take the AAMA/CMA exam in January, June, or October. Applications are available from the medical assistant program coordinator.

MEDICAL RECEPTIONIST/INSURANCE BILLER — CERTIFICATE

The medical receptionist/insurance biller certificate program prepares the student to work in a medical office, clinic or hospital. Emphasis is placed on interpersonal, written and oral communication, office procedures, medical terminology, use of computers, diagnostic and procedure coding and medical insurance billing, record keeping, medical insurance and accounting. On-the-job experience is provided in a 150-hour non-paid externship. The student may enter any semester part-time or full-time.

Prerequisite requirements: Keyboarding skills of 45 WPM or CIS 110.

Minimum credits:	35
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum Grades in ACC 211, MOA 240, MOA 241, and CIS 101:	2.5
Minimum JCC credits:	12
MACRAO agreement:	No

MATHEMATICS

Students interested in this program must complete one of the three following math options:

1. ACT composite score of 18 and math score of 18 or
2. Successfully pass JCC course placement mathematics assessment or
3. Complete MTH 110 with a 2.0 or higher

RELATED REQUIREMENTS — (10 credits)

ENG 131 Writing Experience	3
MOA 141 Body Structure and Function or	
BIO 155 Human Anatomy and Physiology or	
LPN 141 Body Structure and Function	4
SPH 240 Interpersonal Communications or	
SPH 231 Communication Fundamentals or	
BUA 120 Human Relations in Business	3

RECEPTIONIST/INSURANCE BILLER CORE**REQUIREMENTS — (25 credits)**

ACC 211 General Accounting	4
CIS 101 Introduction to Computer Systems	3
MOA 112 Insurance Reports, Law and Ethics	3
MOA 120 Medical Terminology	3
MOA 240 Medical Office Procedures	3
MOA 241 Medical Records	3
MOA 242 Advanced Medical Billing	3
MOA 245 Billing/Transcription Externship*	3

SUGGESTED COURSE SEQUENCE**First Semester**

CIS 101, MOA 112, MOA 141 (or LPN 141, BIO 155), ENG 131

Second Semester

ACC 211, MOA 120, MOA 240, MOA 241

Third Semester

SPH 231 (or SPH 240, BUA 120), MOA 242, MOA 245

**Program coordinator approval needed to register for MOA 245. Student must validate 2.5 or better in MOA 241, SEC 241, and CIS 101 for entrance into this course.*

MEDICAL RECEPTIONIST/TRANSCRIPTIONIST — CERTIFICATE

The medical receptionist/transcriptionist certificate program prepares the student for an entry level position as a medical office receptionist or as the first step to becoming a professional medical transcriptionist. Coursework includes study of the human body, medical terminology, office organization, reception, telephone use, insurance billing, communication skills, record keeping, law and ethics, billing and advance medical machine transcription, introduction to computers and word processing. The graduate of this program will have sufficient training as entry level as a transcriptionist, health information desk, or receptionist in a medical setting. Exceptional typing (60 WPM or more) medical terminology, and transcribing skills are needed for hospital transcribing. This would be emphasized in course choices, if this is the student's goal. Prerequisite courses and required grades qualify the student for progression through the program and MOA 245 Billing/Transcription Externship, a non-paid externship of 150 hours on the job experience. The student may begin during any semester and may attend either part-time or full-time.

Prerequisite requirements: Keyboarding skills of 45 WPM or CIS 110.

Minimum credits:	34
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum Grades in MOA 120, MOA 230, MOA 235 and MOA 240:	3.0

Minimum JCC credits:	12
MACRAO agreement:	No

MATHEMATICS

Students interested in this program must complete one of the three following math options:

1. ACT composite score of 18 and math score of 18 or
2. Successfully pass JCC course placement mathematics assessment or
3. Complete MTH 110 with a 2.0 or higher

RELATED REQUIREMENTS - (13 credits)

ENG 131 Writing Experience	3
MOA 112 Insurance Reports, Law and Ethics	3
MOA 141 Body Structure and Function or BIO 155 Human Anatomy and Physiology or LPN 141 Body Structure and Function	4
SPH 240 Interpersonal Communications or SPH 231 Communication Fundamentals or BUA 120 Human Relations in Business	3

RECEPTIONIST/TRANSCRIPTIONIST CORE REQUIREMENTS — (21 credits)

CIS 101 Introduction to Computer Systems	3
CIS 120 Microsoft® Word® Comprehensive	3
MOA 120 Medical Terminology	3
MOA 230 Medical Machine Transcription	3
MOA 235 Advanced Medical Machine Transcription	3
MOA 240 Medical Office Procedures	3
MOA 245* Billing/Transcription Externship	3

OPTIONAL MULTI-SKILLED ELECTIVES (Not Required for Certificate)

NUR 121 Pharmacology	3
LPN 132 Medication	3

SUGGESTED COURSE SEQUENCE

First Semester

ENG 131, CIS 101, MOA 120, CIS 120, MOA 141 (or LPN 141, BIO 155)

Second Semester

MOA 112, SPH 240 (or BUA 120, SPH 241), MOA 230, MOA 240

Third Semester

MOA 235, MOA 245

**Program coordinator approval needed to register for MOA 245. Student must validate a 3.0 or better grade in MOA 120, MOA 230, MOA 235 and MOA 240 for entrance into MOA 245.*

NURSING

Nursing is a dynamic and changing field with broader employment opportunities than ever before. It is expected to have one of the largest number of new job openings in the next decade. Many future nurses will be employed in home health, long-term or ambulatory care, although nursing careers are still available in traditional settings such as hospitals, medical offices and clinics. Program options reflect the variety of career paths available to future nursing professionals.

JCC PROGRAM CHOICES

- Nursing, JCC & University of Michigan - Bachelor of Science in Nursing
- Nursing, ADN - Associate in Applied Science
- Nursing, LPN to ADN - Associate in Applied Science
- Practical Nurse - Certificate

Note: Students who wish to begin a bachelor's degree in nursing and transfer to a four-year college or university (other than those in the JCC/U of M program) should contact the university where they are planning to transfer.

NURSING — ASSOCIATE IN APPLIED SCIENCE

The Associate in Applied Science, Nursing (ADN) program consists of integrated lectures, labs, and clinicals conducted in approved clinical education affiliates. The program prepares students to demonstrate competency in providing nursing care in a variety of health care settings and for employment in the field of registered nursing. Candidates successfully completing the ADN program are eligible to apply for the licensing examination required for licensure as a registered professional nurse (RN).

Students must apply for admission to the nursing program, and must do so within the application deadlines. **Admission to the nursing program is highly competitive and is not guaranteed.** There are special admission requirements to the nursing program, and it is the student's responsibility to understand the requirements and adhere to them. Students must meet all admission requirements. Admission into the program is based on a competitive point system, a pre-admission standardized exam and completion of prerequisite courses. The selection process is subject to change.

You must work with an academic advisor to plan your prerequisite course sequence and to make application to the nursing program. The advisor will explain the point system on the "ADN Selection Process-Worksheet."

Students are required to take the NCLEX Review Program as part of the curriculum in order to graduate. Multiple standardized exams are also required at various points.

Based on public statute, students applying for admission will be subject to a criminal background check. The following would

preclude an applicant from admission to a Jackson Community College nursing program:

- Felony, or an attempt or conspiracy to commit a felony within the past 15 years
- Misdemeanors involving abuse, neglect, assault, battery or criminal sexual conduct within the past 10 years
- Misdemeanors involving fraud or theft against a vulnerable adult

In addition, all students must pass a drug screen to enter any nursing program at JCC, as well complete immunizations, meet technical standards, and complete a physical form. Following graduation, applicants for licensure as a nurse are also asked about criminal convictions and substance abuse, and this can impact the individual's ability to become licensed.

Minimum credits:	.....72
Minimum cumulative GPA:	.....2.0
Minimum grade in all courses:	.....2.0
Minimum grades in BIO 155 & CEM 132 or 137	.....3.0
Minimum JCC credits:	.....41
MACRAO agreement:	.....No

Prerequisites are:

- ENG 131
- MTH Requirement
- PSY 140
- CEM 132 or CEM 137
- BIO 155
- BIO 220

Applications are accepted for fall or winter admission. See an academic advisor for application deadlines.

It is highly recommended to take CEM prior to BIO 155. All sciences and pharmacology must be taken within the last eight years. Nursing courses MUST be taken in sequence, with the exception of Pharmacology. Students are required to take the NET test prior to admission

GENERAL EDUCATION REQUIREMENTS — (16 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience (Pre-requisite)3
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MATHEMATICS

All students interested in the nursing program must complete one of the three following math options prior to application:

1. ACT composite score of 18 and math score of 21 or
2. Successfully pass JCC course placement mathematics assessment or
3. Complete MTH 120 with a 2.0 or higher.

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology (Prerequisite)5
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SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology (Prerequisite)4
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HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 14003
ART 112 Art History: Renaissance to Present	.....3
ENG 210 Introduction to Film	.....3
ENG 236 Women in Changing Society	.....3
ENG 246 Short Story & Novel	.....3
ENG 247 Poetry and Drama	.....3
ENG 249 African American Literature	.....3
ENG 252 Shakespeare	.....3
ENG 254 Children's Literature	.....3
ENG 255 American Literature 19th Century	.....3
ENG 256 American Literature 20th Century	.....3
ENG 257 World Literature I	.....3
HUM 131 Cultural Connections	.....3
MUS 130 Survey of Non-Western Music	.....3
MUS 131 Understanding Music	.....3
MUS 132 History of American Popular Music	.....3
MUS 133 Music Education	.....3
MUS 151 Music Theory I	.....4
MUS 152 Music Theory II	.....4
PHL 231 Introduction to Philosophy	.....3
PHL 232 Logic	.....3
THR 116 Introduction to Theatre	.....3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

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

RELATED REQUIREMENTS (11 credits)

BIO 220 Microbiology (Prerequisite)	.....4
CEM 132 Organic & Biological Chemistry or	
CEM 137 Chemistry of Life (Prerequisite)	.....4
PSY 252 Developmental Psychology	.....3

NURSING CORE REQUIREMENTS (45 credits)

NUR 101 Fundamentals of Nursing	.....6
NUR 121 Pharmacology	.....3
NUR 170 Self-Care	.....1
NUR 242 Physical Assessment or	
NUR 245 Health Assessment	.....1
NUR 171 Supportive Educative Nursing	.....4
NUR 172 Pathophysiology	.....4
NUR 173 Family I	.....4
NUR 270 Partially Compensatory	.....4
NUR 271 Family II	.....4
NUR 272 Mental Health	.....5
NUR 273 Wholly Compensatory	.....5
NUR 274 Leadership	.....4

SUGGESTED COURSE SEQUENCE FOR NURSING AAS (once admitted)

First Semester

NUR 101, NUR 170, NUR 242 or NUR 245, PSY 252*, NUR 121*

*Highly recommended to be taken prior to admission.

Second Semester

NUR 171, NUR 172, NUR 173, HPF**

Third Semester

NUR 270, NUR 271, NUR 272

Fourth Semester

NUR 273, NUR 274, Humanities elective**

** PSY 252 may be taken prior to Semester I but must be completed prior to Semester II. This course MUST be completed prior to NUR 173 (Family I) in the nursing sequence, if not taken prior to Semester I.*

** NUR 121 if not completed prior to admission into the program, MUST be taken during Semester I-concurrent with NUR 101.*

*** It is highly recommended that general education courses be taken before the nursing course sequence if at all possible.*

NOTE: Nursing courses are assigned various labs and clinicals. Be sure to follow directions in the schedule book of courses each semester you register. The schedule is subject to change on short notice. Specific clinical sites and times cannot be guaranteed.

The nursing department reserves the right to change the curriculum and program requirements.

The nursing program requirements are highly demanding and time consuming. Following admission, full time employment is not recommended.

NURSING - LPN TO ADN — ASSOCIATE IN APPLIED SCIENCE

The Associate in Applied Science, Nursing - LPN to ADN program begins in the Fall semester. The program consists of integrated lectures, labs, and clinicals conducted in approved clinical education affiliate settings. The program is designed to educate students to provide competent nursing care in a variety of health care settings and for employment in the field of registered nursing. Candidates who successfully complete the LPN to ADN program are eligible to apply for the licensing examination required for licensure as a registered professional nurse (RN).

There are special admission requirements to the LPN to ADN nursing program and it is the student's responsibility to understand the requirements and adhere to them. Students

must apply for the program within published timeframes. You must meet with an academic advisor who will explain the program and admission process. Admission is not guaranteed and spaces are limited. The selection process is subject to change. Students must meet all admission requirements. Candidates entering the LPN to ADN program must have the following: valid Michigan unencumbered LPN license; documented minimum of 1,000 hours of clinical practice as a LPN, (within the last five years-prior to start of clinical courses); pass the following competency exam: National League for Nursing (NLN) Foundations of Nursing, NET Test, and Pharmacology NLN exam (or take the course).

Based on public statute, students applying for admission will be subject to a criminal background check. The following would preclude an applicant from admission to a Jackson Community College nursing program:

- Felony, or an attempt or conspiracy to commit a felony within the past 15 years
- Misdemeanors involving abuse, neglect, assault, battery or criminal sexual conduct within the past 10 years
- Misdemeanors involving fraud or theft against a vulnerable adult

In addition, all students must pass a drug screen to enter any nursing program at JCC, as well as complete immunizations, meet technical standards and complete a physical form. Following graduation, applicants for licensure as a nurse are also asked about criminal convictions and substance abuse, this can impact the individual's ability to become licensed.

Minimum credits:	60
Minimum cumulative GPA:	2.0
Minimum grades in all courses:	2.0
Minimum JCC credits:	29
MACRAO agreement:	No

It is highly recommended to take CEM prior to BIO 155.

BIO 155 and NUR 121 must be taken within the last eight years. Nursing courses MUST be taken in sequence, with the exception of pharmacology.

Students are required to take the NCLEX review course as part of the curriculum in order to graduate. Students may apply to be admitted for the fall start of this program. An academic advisor must be consulted to apply to the program.

The nursing program requirements are highly demanding and time consuming. Following admission, full time employment is not recommended.

GENERAL EDUCATION REQUIREMENTS — (16 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience (Prerequisite)	3
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MATHEMATICS

All students interested in the nursing program must complete one of the three following math options prior to admission:

1. ACT composite score of 18 and math score of 21 or
2. Successfully pass JCC course placement mathematics assessment or
3. Complete MTH 120 with a 2.0 or higher.

SCIENCE — (5 credits)

BIO 155 Human Anatomy & Physiology (Prerequisite) 5

SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology (Prerequisite) 4

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

ART 111 Art History Prehistoric to 1400	..... 3
ART 112 Art History: Renaissance to Present	..... 3
ENG 236 Women in Changing Society	..... 3
ENG 246 Short Story and Novel	..... 3
ENG 247 Poetry and Drama	..... 3
ENG 249 African American Literature	..... 3
ENG 252 Shakespeare	..... 3
ENG 254 Children's Literature	..... 3
ENG 255 American Literature 19th Century	..... 3
ENG 256 American Literature 20th Century	..... 3
ENG 257 World Literature I	..... 3
HUM 131 Cultural Connections	..... 3
MUS 130 Survey of Non-Western Music	..... 3
MUS 131 Understanding Music	..... 3
MUS 132 History of American Popular Music	..... 3
MUS 133 Music Education	..... 3
MUS 151 Music Theory I	..... 4
MUS 152 Music Theory II	..... 4
PHL 231 Introduction to Philosophy	..... 3
PHL 232 Logic	..... 3
THR 116 Introduction to Theatre	..... 3

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

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

RELATED REQUIREMENTS — (11 credits)

BIO 220 Microbiology (Prerequisite)	..... 4
CEM 132 Organic & Biological Chemistry or CEM 137 Chemistry of Life (Prerequisite)	..... 4
NUR 121 Pharmacology	..... 3
PSY 252* Developmental Psychology	..... 3

NURSING CORE REQUIREMENTS (30 credits)

NUR 119 Transition Bridge	..... 3
NUR 170 Self-Care	..... 1
NUR 172 Pathophysiology	..... 4
NUR 270 Partially Compensatory	..... 4
NUR 271 Family II	..... 4
NUR 272 Mental Health	..... 5
NUR 273 Wholly Compensatory	..... 5
NUR 274 Leadership	..... 4

SUGGESTED COURSE SEQUENCE**Fall Semester**

NUR 119, NUR 170, NUR 172, PSY 252*

Winter Semester

NUR 270, NUR 271, NUR 272, HPF**

Fall Semester

NUR 273, NUR 274, Humanities elective**

* *May take before nursing sequence but must be completed prior to NUR 270, NUR 271, & NUR 272. Students may test out of NUR 121.*

** *It is highly recommended that general education courses be taken before the nursing course sequence if at all possible.*

NOTE: Nursing courses are assigned various labs and clinicals. Be sure to follow directions in the schedule book of courses each semester you register. The schedule is subject to change on short notice. Specific clinical sites and times cannot be guaranteed.

The nursing department reserves the right to change the curriculum and program requirements.

PRACTICAL NURSE — CERTIFICATE

This program prepares students to provide direct nursing care, under supervision, to individuals in a variety of health care settings. The program consists of integrated lectures, labs and clinical experiences. Students who successfully complete the curriculum receive the certificate in practical nursing and are eligible to apply to write the state licensing examination required for licensure as a practical nurse (LPN).

Students must apply for admission to the nursing program, and must do so within the application deadlines. **Admission to the nursing program is highly competitive and is not guaranteed.** There are special admission requirements to the nursing program and it is the student's responsibility to understand the requirements and adhere to them. Students must meet all admission requirements. Admission into the program is based on a competitive point system, a pre-

admission standardized exam and completion of prerequisite courses. The selection process is subject to change.

You must work with an academic advisor to plan your pre-requisite course sequence and to make application to the nursing program. The advisor will explain the point system on the "Practical Nursing Selection Process-Worksheet."

The practical nursing program begins in March of each year and concludes the following May. There is a short break from mid July to late August between Semester I and Semester II. Practical nursing classes are on a different course calendar than other classes.

All science classes must be taken within the last eight years. Practical nursing courses must be taken in sequence.

Students are required to take a licensure preparation course at JCC as part of their curriculum in order to graduate.

Based on public statute, students applying for admission will be subject to a criminal background check. The following would preclude an applicant from admission to a Jackson Community College nursing program:

- Felony, or an attempt or conspiracy to commit a felony within the past 15 years
- Misdemeanors involving abuse, neglect, assault, battery or criminal sexual conduct within the past 10 years
- Misdemeanors involving fraud or theft against a vulnerable adult

In addition, all students must pass a drug screen to enter any nursing program at JCC, as well as complete immunizations, meet technical standards and complete a physical form. Following graduation, applicants for licensure as a nurse are also asked about criminal convictions and substance abuse, this can impact the individual's ability to become licensed.

Must complete one of the following three math options prior to admission:

1. ACT composite of 18 & and ACT math score of 21 or
2. Successfully pass JCC mathematics assessment or
3. Complete MTH 120 with a 2.0 or higher

Minimum credits: 45

Minimum cumulative GPA: 2.0

Minimum grades: ... 2.0 in all prerequisite and nursing classes.

HOWEVER - Check "The Point System" on the "PN Selection Process-Worksheet" regarding values of points for designated grades. Admission is competitive and based on grades.

Minimum JCC credits: 32

MACRAO agreement: No

RELATED REQUIREMENTS — (10 credits)

Prior to acceptance to the program:

LPN 141 Body Structure & Function or	
MOA 141 Body Structure & Function or	
BIO 155 Human Anatomy & Physiology	..... 4

NUR 207 Normal/Therapeutic Nutrition or	
MOA 145 Normal/Therapeutic Nutrition or	
LPN 145 Normal/Therapeutic Nutrition	..... 3
LPN 132 Medications or	
NUR 121 Pharmacology	..... 3

PRACTICAL NURSING CORE REQUIREMENTS — (35 credits)

Must be completed in sequence shown.

Semester I

ENG 131* Writing Experience	..... 3
LPN 131 Foundations of Nursing	..... 6
MOA 120* Medical Terminology	..... 3

Semester II

LPN 180 Nursing Care of Adults-1A	..... 6
LPN 181 Nursing Care of Adults-1B	..... 6

Semester III

LPN 182 Role of the Practical Nurse	..... 2
LPN 183 Nursing Care of Adults II	..... 6
LPN 184 Maternal/Child Concepts	..... 6

**Preferable to be taken before being admitted to the nursing program. See advisor.*

NOTE: Nursing courses include various labs and clinicals, which must be taken in addition to the lectures. Be sure to follow directions in the course schedule book each semester and consult with an academic advisor for guidance. This schedule is subject to change on short notice. Specific clinical sites and times cannot be guaranteed.

The nursing department reserves the right to change the curriculum and program requirements as necessary.

The nursing program requirements are highly demanding and time consuming. Following admission, full time employment is not recommended.

RADIOGRAPHY — ASSOCIATE IN APPLIED SCIENCE

A radiographer is the allied health professional who uses ionizing radiation to image patients in hospitals and various health clinical settings. Other functions of the radiographer including assisting the radiologist in the administration of contrast material to patients in order to enhance the visibility of certain anatomical structures on a radiograph.

It is a two-year program leading to an Associate in Applied Science degree. The curriculum consists of integrated didactic and clinical course work in an approved clinical education affiliate.

The program is designed to prepare the student for employment in the field of diagnostic radiography. Positions

are located within hospitals, medical clinics, and other diagnostic imaging institutions. Upon successful completion, students are eligible to write the American Registry of Radiological Technologists (ARRT) exams. Satisfactory completion of the ARRT board certifying exams allows the radiographer to use the initials of R.T. (R), Registered Technologist (Radiography).

There are special admissions requirements to the radiography programs, and it is the student's responsibility to understand the requirements and adhere to them. Entry into a program is competitive and based on a "points system." Point values are based on grades earned in prerequisite coursework and the interview process.

Applications are processed according to the following:

- Applications must be received by the Allied Health Office by January 31.
- Questionnaires will be mailed to eligible applicants.
- Completed questionnaires must be returned by the stated due date.
- Radiography Admission Committee conducts interviews.
- Applicants notified by mail for Spring semester start.

DMS 100, BIO 155, HOC 130 and MOA 120 must be successfully completed before applying to the program.

Minimum credits:	.80
Minimum cumulative GPA:	2.0
Minimum grade in all courses:	2.0
Minimum grades in BIO 155, DMS 100, HOC 130 & MOA 120:	3.0
Minimum JCC credits:	12
MACRAO agreement:	No

GENERAL EDUCATION REQUIREMENTS — (17 credits)

ENGLISH — (3 credits)

ENG 131 Writing Experience	3
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MATHEMATICS — (3 credits)

MTH 131 Intermediate Algebra or higher	3
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SCIENCE — (4 credits)

BIO 155 Human Anatomy & Physiology	5
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SOCIAL SCIENCE — (3 credits)

PSY 140 Introduction to Psychology	3-4
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HUMANITIES — (3 credits)

Choose one of the following:

ART 111 Art History: Prehistoric to 1400	3
ART 112 Art History: Renaissance to Present	3
ENG 210 Introduction to Film	3
ENG 236 Women in Changing Society	3
ENG 247 Poetry & Drama	3
ENG 249 African American Literature	3
ENG 252 Shakespeare	3

ENG 254 Children's Literature	3
ENG 255 American Literature-19th Century	3
ENG 256 American Literature-20th Century	3
ENG 257 World Literature I	3
HUM 131 Cultural Connections	3
MUS 130 Survey of Non-Western Music	3
MUS 131 Understanding Music	3
MUS 132 History of American Popular Music	3
MUS 133 Music Education	3
MUS 151 Music Theory I	4
MUS 152 Music Theory II	4
PHL 231 Introduction to Philosophy	3
PHL 232 Logic	3
THR 116 Introduction to Theatre	3

HEALTH/PHYSICAL FITNESS — (1 credit)

Choose one of the following:

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

RELATED REQUIREMENTS — (15 CREDITS)

HOC 130 Introduction to Health Occupations	3
CIS 101 Introduction to Computer Systems	3
DMS 100 Introduction to Diagnostic Medical Imaging	3
MOA 120 Medical Terminology	3
SPH 231 Communication Fundamentals or SPH 240 Interpersonal Communications	3

RADIOGRAPHY CORE REQUIREMENTS - (48 credits)

RAD 120 Radiographic Orientation	2
RAD 121 Radiographic Positioning I	4
RAD 125 Radiographic Positioning II	4
RAD 126 Clinical Practicum I	3
RAD 162 Clinical Practicum II	3
RAD 210 Clinical Practicum III	5
RAD 214 Clinical Practicum IV	5
RAD 219 Clinical Practicum V	5
RAD 160 Fundamentals of Radiologic Science	4
RAD 161 Radiographic Exposure	4
RAD 212 Special Radiographic Studies	4
RAD 213 Radiobiology	2
RAD 218 Radiographic Pathology	3

REQUIRED COURSE SEQUENCE

Spring Semester:

RAD 120, RAD 121, MOA 211

Fall Semester:

RAD 125, RAD 126, ENG 131*, MTH 131*

Winter Semester:

RAD 160, RAD 161, RAD 162, Health and Physical Fitness requirement*

Spring Semester:

CIS 101*, RAD 210, LPN 132

Fall Semester:

RAD 214, RAD 213, RAD 212, Humanities requirement*

Winter Semester:

RAD 219, RAD 218, PSY 140*

**If course not taken prior to program admittance.*

TRANSFER PROGRAMS**MEDICAL LABORATORY TECHNOLOGY**

Medical laboratory technicians search for clues about the presence, extent, and causes of disease. They use their knowledge of how diseases affect test results to provide an accurate and complete picture of a patient's condition. MLTs analyze blood and body fluids for a wide variety of chemical changes, using the latest biomedical instruments. They culture and identify bacteria that cause disease and examine blood to detect anemias, leukemias, and infections, ensuring that donor blood is safe for transfusion.

Kellogg Community College and JCC jointly offer an Associate of Applied Science degree program in medical laboratory technology. This program allows students to take the specified general education courses identified in this agreement at JCC and complete their program by taking the occupational specific courses at Kellogg Community College. These courses may be taken concurrently provided students are formally admitted to the program at Kellogg Community College and all prerequisite course requirements are adhered to. Consult an academic advisor for more information.

The Bachelor of Applied Science in Allied Health option with Siena Heights University offers a unique degree program for JCC students with training and/or experience in diagnostic medical sonography, emergency medical services, medical assistant, nursing and related fields. This career-oriented degree for graduates of the JCC two-year programs is structured on an inverted major concept. All the courses needed to earn a bachelor's degree are available on JCC's main campus through the Siena Heights University degree completion center.

JCC/U OF M BACHELOR OF SCIENCE IN NURSING PROGRAM

A Bachelor of Science in Nursing (BSN) degree prepares students for a critically important, well-paid and secure career. It also allows broader advancement opportunities since some positions are open only to nurses with a minimum of a bachelor's degree. Careers may include advancement to positions in management or clinical education. The JCC/U of M Bachelor of Science in nursing program allows students to enroll and complete the first segment of a baccalaureate nursing program at JCC and complete the remaining five terms at the

University of Michigan. Students must meet the admissions requirements to JCC and the U of M School of Nursing, which requires a 3.0 cumulative GPA in all prior college experience. The program is competitive with a limited number of spaces available annually. For more information contact: Office of Nursing Admissions at (517) 796-8424.

DENTAL HYGIENE

Dental hygienists work under the direction or supervision of a licensed dentist, and must be licensed by the state in which they practice. Clinical responsibilities of the dental hygienist in Michigan include oral examination; scaling and polishing teeth; exposing, processing, mounting and interpreting x-rays; taking impressions and preparing diagnostic models; and other activities related to the oral health of the patient.

JCC offers only prerequisite and general education courses that can be transferred to a dental hygiene program. Five colleges/universities offer a dental hygienist program. Some offer an associate degree and others a bachelor's degree. Consult an academic advisor for more information on transfer options available.

MEDICAL SCIENCES (PRE-MEDICINE, PRE-DENTAL, PRE-PHARMACY)

The medical sciences major is designed for pre-professional students who are interested in graduate training in human medicine. Students have a variety of areas of specialization within the field of medicine available to them at the post-graduate level. They may pursue medical, osteopathic, or dental school, graduate level pharmacy programs and physician's assistant or pathology assistant programs.

SUGGESTED COURSE SEQUENCE**First Year, Fall Semester**

BIO 131, CEM 141, MTH 140 or MTH 151, ENG 131

First Year, Winter Semester

BIO 152, CEM 142, ENG 132, PSY 140

First Year, Spring Semester

PSY 252, MACRAO Humanities course

Second Year, Fall Semester

BIO 151, CEM 241, PHY 231, PHL 231

Second Year, Winter Semester

CEM 242, PHY 232, ECN 231, MACRAO Humanities course

PHYSICAL THERAPY

Physical therapists provide clients, infants through elderly adults, with services at the preventive, acute and rehabilitative stages directed toward achieving increased functional independence and decreased functional impairment. Physical therapists interact and practice in collaboration with a variety of health professionals.

SUGGESTED COURSE SEQUENCE**First Year, Fall Semester***

ENG 131, MTH 140, SOC 231, CEM 141*

First Year, Winter Semester

ENG 132, BIO 131, PHL 231, PSY 140, CEM 142

Second Year, Fall Semester

PSY 251, PHY 231, CEM 241, MACRAO Humanities course

Second Year, Winter Semester

BIO 152, CEM 242, PHY 232, PSY 252, MACRAO Humanities courses

**Some programs require the chemistry sequence CEM 141, 142, 241, 242*

PRE-VETERINARY

Veterinarians play a major role in the health care of pets, livestock, and zoo, sporting, and laboratory animals. Veterinarians also use their skills to protect humans against diseases carried by animals, and conduct clinical research on human and animal health problems.

SUGGESTED COURSE SEQUENCE**First Year, Fall Semester**

BIO 131, CEM 141, MTH 140 or MTH 151, ENG 131

First Year, Winter Semester

BIO 152, CEM142, ENG 132, HIS 231 or 232, PSY 140 or SOC 231

Second Year, Fall Semester

CEM 241, PHY 231, ECN 231, MACRAO Humanities course

Second Year, Winter Semester

CEM 242, PHY 232, MACRAO Social Science courses