

**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
- Respiratory Care
- Vascular Sonography

**DEGREES/CERTIFICATES – NURSING**

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

**CONCENTRATION**

The “concentration” process is a building block approach to completing a trade certificate program. Students can choose to complete the concentration depending upon the level of skill and knowledge desired. Students can apply for a concentration 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 35 for additional information on transfer and MACRAO. Academic advisors will assist students in planning their transfer program. They can also provide transfer guide sheets indicating JCC courses that meet the requirements of various programs of study at four-year colleges. Sample curricula for a few popular transfer programs are included:

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

*Jackson Community College has published this catalog for information purposes only and its contents do not constitute a contract between this institution and prospective or enrolled students. The information contained in this general College catalog reflects the current curricula, policies and regulations of the College. However, these are subject to change at any time by action of the Board of Trustees or the administration. The information is generally believed to be accurate, but the College disclaims liability for inadvertent errors or omissions.*

**GENERAL SONOGRAPHY – ASSOCIATE IN APPLIED SCIENCE (GSON.AAS)**

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 the 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 and 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 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 “point 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.
- Students are notified by mail of application/interview results.
- Accepted students begin Spring semester.

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

Minimum credits: .....	76
Minimum cumulative GPA: .....	2.0
Minimum grade in BIO 132 or BIO 155 or BIO 253/254, HOC 130 and MOA 120.....	3.0
Minimum grade in all courses: .....	2.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

**GENERAL EDUCATION REQUIREMENTS – (20 credits)**

**ADO 1: Write clearly, concisely and intelligibly (3 credits)**

**Take the following:**

ENG 131 Writing Experience

**ADO 2: Speak clearly, concisely and intelligibly (3 credits)**

**Choose one of the following:**

COM 231 Communication Fundamentals

COM 240 Interpersonal Communication

**ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)**

**Take the following:**

MTH 131 Intermediate Algebra or higher

**ADO 4: Demonstrate scientific reasoning (4-8 credits)**

**Choose one of the following:**

BIO 132 Human Biology

or BIO 155 Human Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

**ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)**

**Take the following:**

PSY 140 Introduction to Psychology

**ADO 6: Understand aesthetic experience and artistic creativity (3 credits)**

**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children's Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

**ADO 7: Think critically**

**Program courses meet this requirement**

**ADO 8: Make responsible decisions in personal and professional contexts (1- 3 credits)**

**Choose one of the following:**

HPF 160 Wellness

HPF 277 Stress Management

HPF 283 Managing Stress and Holistic Health

PHL 236 Ethics

**ADO 9: Work productively with others, recognizing individual contributions to group success**

**Program courses meet this requirement**

**ADO 10: Understand and respect the diversity and interdependence of the world's peoples and cultures**

**Program courses meet this requirement**

**GENERAL SONOGRAPHY RELATED REQUIREMENTS – (16 credits)**

**Take the following:**

CIS 101 Introduction to Computer Systems

DMS 100 Introduction to Diagnostic Imaging

DMS 104 Introduction to Sonographic Instrumentation

FYS 110 Life Maps

HOC 130 Introduction to Health Occupations

MOA 120 Medical Terminology

**GENERAL SONOGRAPHY CORE REQUIREMENTS – (40 credits)**

**Take the following:**

DMS 101 Sonographic Orientation

DMS 105 Sonographic Techniques

DMS 122 Clinical Experience I

DMS 200 Abdomen and Small Parts Sonography

DMS 201 Obstetric and Gynecologic Sonography

DMS 206 Sonographic Instrumentation

DMS 212 Comprehensive Sonography

DMS 223 Clinical Experience II

DMS 224 Clinical Experience III

**VASCULAR SONOGRAPHY – ASSOCIATE IN APPLIED SCIENCE (VSON.AAS)**

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 the 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).

There are special admission 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 "point 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.
- Students are notified by mail of application/interview results.
- Accepted students begin Spring semester.

*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 132 or BIO 155 or BIO 253/254, HOC 130 and MOA 120: .....	3.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

**GENERAL EDUCATION REQUIREMENTS – (20 credits)**

**ADO 1: Write clearly, concisely and intelligibly (3 credits)**

**Take the following:**

ENG 131 Writing Experience

**ADO 2: Speak clearly, concisely and intelligibly (3 credits)**

**Choose one of the following:**

COM 231 Communication Fundamentals

COM 240 Interpersonal Communication

**ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)**

**Take the following:**

MTH 131 Intermediate Algebra or higher level

**ADO 4: Demonstrate scientific reasoning (4-8 credits)**

**Choose one of the following:**

BIO 132 Human Biology

or BIO 155 Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

**ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)**

**Take the following:**

PSY 140 Introduction to Psychology

**ADO 6: Understand aesthetic experience and artistic creativity (3 credits)**

**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children’s Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

**ADO 7: Think critically**

**Program courses meet this requirement**

**ADO 8: Make responsible decisions in personal and professional contexts (1-3 credits)**

**Choose one of the following:**

HPF 160 Wellness

HPF 277 Stress Management

HPF 283 Managing Stress and Holistic Health

PHL 236 Ethics

**ADO 9: Work productively with others, recognizing individual contributions to group success**

**Program courses meet this requirement**

**ADO 10: Understand and respect the diversity and interdependence of the world’s peoples and cultures**

**Program courses meet this requirement**

**ALLIED HEALTH PREREQUISITE REQUIREMENTS – (16 credits)**

**Take the following:**

CIS 101 Introduction to Computer Systems

DMS 100 Introduction to Diagnostic Imaging

DMS 104 Introduction to Sonographic Instrumentation

FYS 110 Life Maps

HOC 130 Introduction to Health Occupations

MOA 120 Medical Terminology

**VASCULAR SONOGRAPHY CORE REQUIREMENTS – (32 credits)**

**Take the following:**

DMS 107 Sonographic Orientation – Vascular

DMS 151 Peripheral Arterial I

DMS 152 Peripheral Arterial II

DMS 155 Peripheral Venous

DMS 161 Vascular Clinical I

DMS 206 Sonographic Instrumentation

DMS 251 Cerebrovascular I

DMS 253 Cerebrovascular II

DMS 265 Vascular Clinical II

DMS 266 Vascular Clinical III

**CARDIAC SONOGRAPHY – ASSOCIATE IN APPLIED SCIENCE (CSON.AAS)**

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 the 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 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.

There are special admission 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 “point 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.
- Students are notified by mail of application/interview results.
- Accepted students begin Winter semester.

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

Minimum credits: .....	69
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum grade in BIO 132 or BIO 155 or BIO 253/254, HOC 130 and MOA 120: .....	3.0
Minimum JCC credits: .....	33
MACRAO agreement: .....	No

**GENERAL EDUCATION REQUIREMENTS – (20 credits)**

**ADO 1: Write clearly, concisely and intelligibly (3 credits)**

Take the following:

ENG 131 Writing Experience

**ADO 2: Speak clearly, concisely and intelligibly (3 credits)**

Choose one of the following:

COM 231 Communication Fundamentals

COM 240 Interpersonal Communication

**ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)**

Take the following:

MTH 131 Intermediate Algebra or higher

**ADO 4: Demonstrate scientific reasoning (4-8 credits)**

Choose one of the following:

BIO 132 Human Biology

or BIO 155 Human Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

**ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)**

Take the following:

PSY 140 Introduction to Psychology

**ADO 6: Understand aesthetic experience and artistic creativity (3 credits)**

Choose one of the following:

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children’s Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

**ADO 7: Think critically**

Program courses meet this requirement

**ADO 8: Make responsible decisions in personal and professional contexts (1-3 credits)**

Choose one of the following:

HPF 160 Wellness

HPF 277 Stress Management

HPF 283 Managing Stress and Holistic Health

PHL 236 Ethics

**ADO 9: Work productively with others, recognizing individual contributions to group success**

Program courses meet this requirement

**ADO 10: Understand and respect the diversity and interdependence of the world’s peoples and cultures**

Program courses meet this requirement

**CARDIAC SONOGRAPHY RELATED REQUIREMENTS – (16 credits)**

Take the following:

CIS 101 Introduction to Computer Systems

DMS 100 Introduction to Diagnostic Imaging

DMS 104 Introduction to Sonographic Instrumentation

FYS 110 Life Maps

HOC 130 Introduction to Health Occupations

MOA 120 Medical Terminology

**CARDIAC SONOGRAPHY CORE REQUIREMENTS – (33 credits)**

Take the following:

DMS 140 Sonographic Orientation & Technique

DMS 141 Adult Echo I

DMS 143 Echo Clinical I

DMS 144 Cardiovascular Principles

DMS 147 Echo Clinical II

DMS 206 Sonographic Instrumentation

DMS 240 Adult Echo II

DMS 242 Echo Clinical III

## EMERGENCY MEDICAL SERVICES – ASSOCIATE IN APPLIED SCIENCE (EMMS.AAS)

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: .....	83
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

### GENERAL EDUCATION REQUIREMENTS – (20 credits)

#### ADO 1: Write clearly, concisely and intelligibly (3 credits)

**Take the following:**

ENG 131 Writing Experience

#### ADO 2: Speak clearly, concisely and intelligibly (3 credits)

**Choose one of the following:**

COM 231 Communication Fundamentals

COM 240 Interpersonal Communication

#### ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)

**Take the following:**

MTH 120 Beginning Algebra or higher

#### ADO 4: Demonstrate scientific reasoning (4-8 credits)

**Take the following:**

BIO 155 Human Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

#### ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)

**Take the following:**

PSY 140 Introduction to Psychology

#### ADO 6: Understand aesthetic experience and artistic creativity (3 credits)

**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children's Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

#### ADO 7: Think critically

**Program courses meet this requirement**

#### ADO 8: Make responsible decisions in personal and professional contexts (1-3 credits)

**Choose one of the following:**

HPF 160 Wellness

HPF 277 Stress Management

HPF 283 Managing Stress and Holistic Health

PHL 236 Ethics

#### ADO 9: Work productively with others, recognizing individual contributions to group success

**Program courses meet this requirement**

#### ADO 10: Understand and respect the diversity and interdependence of the world's peoples and cultures

**Program courses meet this requirement**

### EMERGENCY MEDICAL SERVICES RELATED REQUIREMENTS – (19 credits)

**Take the following:**

EMS 125 EMT Ambulance

EMS 126 EMT Ambulance

FYS 110 Life Maps

MOA 120 Medical Terminology

NUR 121 Pharmacology

### EMERGENCY MEDICAL SERVICES CORE REQUIREMENTS – (44 credits)

**Take the following:**

EMS 211 Paramedic I

EMS 212 Paramedic Lab I

EMS 213 Paramedic Clinical I

EMS 221 Paramedic II

EMS 222 Paramedic Lab II

EMS 223 Paramedic Clinical II

EMS 231 Paramedic III

EMS 232 Paramedic Lab III

EMS 233 Paramedic Clinical III

EMS 242 Paramedic IV - Lab

EMS 243 Paramedic IV - Clinical

## EMERGENCY MEDICAL SERVICES – CERTIFICATE (EMMS.CERT)

Minimum credits: .....	73
Minimum cumulative GPA: .....	2.0
Minimum grade in all course: .....	2.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

**RELATED REQUIREMENTS – (17 credits)**

**Take the following:**

- BIO 155 Human Anatomy & Physiology  
or BIO 253 Human Anatomy and Physiology I  
and BIO 254 Human Anatomy and Physiology II]
- ENG 131 Writing Experience
- FYS 110 Life Maps
- MTH 120 Beginning Algebra or higher
- MOA 120 Medical Terminology
- NUR 121 Pharmacology

**EMERGENCY MEDICAL SERVICES CORE REQUIREMENTS – (56 credits)**

**Take the following:**

- EMS 125 EMT: Ambulance
- EMS 126 EMT: Ambulance
- EMS 211 Paramedic I
- EMS 212 Paramedic Lab I
- EMS 213 Paramedic Clinical I
- EMS 221 Paramedic II
- EMS 222 Paramedic Lab II
- EMS 223 Paramedic Clinical II
- EMS 231 Paramedic III
- EMS 232 Paramedic Lab III
- EMS 233 Paramedic Clinical III
- EMS 242 Paramedic IV – Lab
- EMS 243 Paramedic IV – Clinical

**BASIC EMERGENCY MEDICAL TECHNICIAN – SKILL SET**

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: .....	13
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

**REQUIRED COURSES – (12 credits)**

**Take the following:**

- EMS 125 EMT: Ambulance
- EMS 126 EMT: Ambulance
- FYS 110 Life Maps

**OPTIONAL SUGGESTED ELECTIVES**

- COM 240 Interpersonal Communication  
or COM 231 Communication Fundamentals
- MOA 120 Medical Terminology
- MOA 141 Body Structure and Function

**MEDICAL ASSISTANT – ASSOCIATE IN APPLIED SCIENCE (MEDA.AAS)**

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 (communication 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 a Associate in Applied Science-Medical Assistant. Students are welcome to enter this program in any semester, but must meet prerequisite course and grade level requirements to proceed in the program and qualify for MOA 204 Internship/Externship.

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

Minimum credits: .....	60
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum grade required in MOA 120, 111, 211, 240 and 204.....	2.5
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

**GENERAL EDUCATION REQUIREMENTS – (19 credits)**

**ADO 1: Write clearly, concisely and intelligibly (3 credits)**

**Take the following:**

- ENG 131 Writing Experience

**ADO 2: Speak clearly, concisely and intelligibly (3 credits)**

**Choose one of the following:**

- COM 231 Communication Fundamentals
- COM 240 Interpersonal Communication

**ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)**

**Take the following:**

- MTH 120 Beginning Algebra or higher

**ADO 4: Demonstrate scientific reasoning (4-5 credits)**

**Choose one of the following:**

- BIO 110 Introductory Biology
- BIO 131 General Biology
- BIO 132 Human Biology
- BIO 155 Human Anatomy & Physiology
- BIO 220 Microbiology
- BIO 253 Human Anatomy and Physiology I
- CEM 131 Fundamentals of Chemistry
- CEM 141 General Chemistry I
- GEL 160 Introduction to Geology
- PHY 131 Conceptual Physics
- PHY 151 Astronomy
- PHY 231 College Physics I
- PHY 251 Modern University Physics I

**ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)**

**Take the following:**

PSY 140 Introduction to Psychology

**ADO 6: Understand aesthetic experience and artistic creativity (3 credits)**

**Choose one of the following:**

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children’s Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

**ADO 7: Think critically**

**Program courses meet this requirement**

**ADO 8: Make responsible decisions in personal and professional contexts**

**Program courses meet this requirement**

**ADO 9: Work productively with others, recognizing individual contributions to group success**

**Program courses meet this requirement**

**ADO 10: Understand and respect the diversity and interdependence of the world’s peoples and cultures**

**Program courses meet this requirement**

**MEDICAL ASSISTANT RELATED REQUIREMENTS – (10 credits)**

**Take the following:**

CIS 101 Introduction to Computer Systems

DMS 100 Introduction to Diagnostic Imaging

EMS 110 CPR & First Aid

or current Healthcare Provider CPR and Basic First Aid certification

FYS 110 Life Maps

LPN 132 Medications

or NUR 121 Pharmacology

**MEDICAL ASSISTANT CORE REQUIREMENTS – (31 credits)**

**Take the following:**

MOA 112 Insurance Reports Law & Ethics

MOA 111 Medical Assistant Techniques I

MOA 120 Medical Terminology

MOA 141 Body Structure & Function

or LPN 141 Body Structure & Function

or BIO 155 Human Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

MOA 145 Nutrition

MOA 204 Internship/Externship

MOA 211 Medical Assistant Techniques II

MOA 240 Medical Office Procedures

MOA 241 Medical Records

**MEDICAL ASSISTANT – CERTIFICATE (MEDA.CERT)**

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 (communication 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 proceed in the program and qualify for MOA 204 Internship/Externship.

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

Minimum credits: .....	51
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)**

**Take the following:**

ENG 131 Writing Experience

MTH 120 Beginning Algebra or higher

PSY 140 Introduction to Psychology

**RELATED REQUIREMENTS – (9 credits)**

**Take the following:**

CIS 101 Introduction to Computer Systems

DMS 100 Introduction to Diagnostic Imaging

EMS 110 CPR & First Aid

or current Healthcare Provider CPR and Basic First Aid certification

FYS 110 Life Maps

NUR 121 Pharmacology

or LPN 132 Medications

**MEDICAL ASSISTANT CORE REQUIREMENTS – (31 credits)**

**Take the following:**

MOA 111 Medical Assistant Techniques I

MOA 112 Insurance, Reports, Law & Ethics

MOA 120 Medical Terminology

MOA 141 Body Structure & Function

or LPN 141 Body Structure & Function

or BIO 155 Human Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy & Physiology II

- MOA 145 Normal/Therapeutic Nutrition  
or LPN 145 Normal/Therapeutic Nutrition  
or NUR 207 Normal/Therapeutic Nutrition
- MOA 204 Internship/Externship (225 hours + 30-hour seminar)
- MOA 211 Medical Assistant Techniques II
- MOA 240 Medical Office Procedures
- MOA 241 Medical Records

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

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

*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 (MRIB.CERT)**

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: .....	39
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum grades in ACC 211 or ACC 231, MOA 240, MOA 241, and CIS 101: .....	2.5
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

**GENERAL EDUCATION REQUIREMENTS - (6 credits)**

- ENG 131 Writing Experience
- MTH 120 Beginning Algebra

**RELATED REQUIREMENTS - (8 credits)**

**Take the following:**

- COM 240 Interpersonal Communication  
or COM 231 Communication Fundamentals  
or BUA120 Human Relations in Business
- FYS 110 Life Maps
- MOA 141 Body Structure & Function  
or BIO 155 Human Anatomy & Physiology  
or BIO 253 Human Anatomy and Physiology I  
and BIO 254 Human Anatomy and Physiology II  
or LPN 141 Body Structure & Function

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

**Take the following:**

- ACC 211 General Accounting  
or ACC 231 Principles of Accounting I
- CIS 101 Introduction to Computer Systems
- MOA 112 Insurance Reports, Law & Ethics
- MOA 120 Medical Terminology
- MOA 240 Medical Office Procedures
- MOA 241 Medical Records
- MOA 242 Advanced Medical Billing
- MOA 245 Internship/ Externship\*

*\*Program coordinator approval needed to register for MOA 245. Student must validate 2.5 or better in MOA 241, MOA 240 and CIS 101 for entrance into this course.*

**MEDICAL RECEPTIONIST/  
TRANSCRIPTIONIST – CERTIFICATE  
(MRTR.CERT)**

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. Course work includes study of the human body, medical terminology, office organization, reception, telephone use, insurance billing, communication skills, record keeping, law and ethics, billing and advanced medical machine transcription, introduction to computers and word processing. The graduate of this program will have sufficient training for entry level employment 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: .....	38
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

**GENERAL EDUCATION REQUIREMENTS - (6 credits)**

- ENG 131 Writing Experience
- MTH 120 Beginning Algebra

**RELATED REQUIREMENTS - (11 credits)**

**Take the following:**

- COM 240 Interpersonal Communication  
or COM 231 Communication Fundamentals  
or BUA 120 Human Relations in Business
- FYS 110 Life Maps
- MOA 112 Insurance Reports, Law & Ethics

- MOA 141 Body Structure & Function
- or BIO 155 Human Anatomy & Physiology
- or BIO 253 Human Anatomy and Physiology I
- and BIO 254 Human Anatomy and Physiology II
- or LPN 141 Body Structure & Function

**RECEPTIONIST/TRANSCRIPTIONIST CORE REQUIREMENTS – (21 credits)**

**Take the following:**

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

**OPTIONAL MULTI-SKILLED ELECTIVES**

**(Not Required for Certificate)**

- LPN 132 Medication
- NUR 121 Pharmacology

\*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 and 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 (NURS.AAS)**

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 State of Michigan Senate Bill 0621 (2005) Public Act 28 of 2006, students applying for admission will be subject to a criminal background check including fingerprinting. Exclusions for convictions can range from one year to permanent exclusion. Further information can be found at [www.miltcpartnership.com](http://www.miltcpartnership.com) and additional questions should be directed to the Legal Affairs Department.

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, and this can impact the individual's ability to become licensed.

Minimum credits: .....	74
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum grades in BIO 155 or BIO 253 and BIO 254 and CEM 132 or 137: .....	3.0
Minimum JCC credits: .....	41
MACRAO agreement: .....	No

**Prerequisites are:**

- ENG 131 Writing Experience
- MTH Requirement
- PSY 140 Introduction to Psychology
- CEM 132 Fundamentals of Organic & Biological Chemistry  
or CEM 137 Chemistry of Life
- BIO 155 Human Anatomy & Physiology  
or BIO 253 Human Anatomy and Physiology I  
and BIO 254 Human Anatomy and Physiology II
- BIO 220 Microbiology

Applications are accepted for Fall or Winter admission. See an academic advisor for application deadlines. It is highly recommended to take CEM prior to Human Anatomy & Physiology. 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 and pass the Nursing Entrance Test (NET) prior to admission.

**GENERAL EDUCATION REQUIREMENTS – (17 credits)**

**ADO 1: Write clearly, concisely and intelligibly (3 credits)**

**Take the following:**

- ENG 131 Writing Experience

**ADO 2: Speak clearly, concisely and intelligibly**

Program courses meet this requirement

**ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)**

Take the following:

MTH 120 Beginning Algebra or higher

**ADO 4: Demonstrate scientific reasoning (5-8 credits)**

Take the following:

BIO 155 Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

**ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)**

Take the following:

PSY 140 Introduction to Psychology

**ADO 6: Understand aesthetic experience and artistic creativity (3 credits)**

Choose one of the following:

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children's Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

**ADO 7: Think critically**

Program courses meet this requirement

**ADO 8: Make responsible decisions in personal and professional contexts**

Program courses meet this requirement

**ADO 9: Work productively with others, recognizing individual contributions to group success**

Program courses meet this requirement

**ADO 10: Understand and respect the diversity and interdependence of the world's peoples and cultures**

Program courses meet this requirement

**NURSING RELATED REQUIREMENTS – (15 credits)**

Take the following:

BIO 220 Microbiology

CEM 132 Fundamentals of Organic & Biological Chemistry

or CEM 137 Chemistry of Life

FYS 110 Life Maps

NUR 121 Pharmacology

PSY 252 Developmental Psychology

**NURSING CORE REQUIREMENTS – (42 credits)**

Take the following:

NUR 101 Fundamentals of Nursing

NUR 170 Self-Care

NUR 242 Physical Assessment

or NUR 245 Health Assessment

NUR 171 Supportive Educative Nursing

NUR 172 Pathophysiology

NUR 173 Family I

NUR 270 Partially Compensatory

NUR 271 Family II

NUR 272 Mental Health

NUR 273 Wholly Compensatory

NUR 274 Leadership

*\* 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, policies 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 (TNUR.AAS)**

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 programs 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 time frames. 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 State of Michigan Senate Bill 0621 (2005) Public Act 28 of 2006, students applying for admission will be subject to a criminal background check including fingerprinting. Exclusions for convictions can range from one year to permanent exclusion. Further information can be found at [www.miltcpartnership.com](http://www.miltcpartnership.com) and additional questions should be directed to the Legal Affairs Department.

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, and this can impact the individual's ability to become licensed.

Minimum credits: .....	63
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 Human Anatomy & Physiology (BIO 253 & 254) 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 – (17 credits)**

**ADO 1: Write clearly, concisely and intelligibly (3 credits)**

Take the following:

ENG 131 Writing Experience

**ADO 2: Speak clearly, concisely and intelligibly (3 credits)**

Program courses meet this requirement

**ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)**

Take the following:

MTH 120 Beginning Algebra or higher

**ADO 4: Demonstrate scientific reasoning (5-8 credits)**

Take the following:

BIO 155 Anatomy & Physiology  
or BIO 253 Human Anatomy and Physiology I and  
BIO 254 Human Anatomy and Physiology II

**ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)**

Take the following:

PSY 140 Introduction to Psychology

**ADO 6: Understand aesthetic experience and artistic creativity (3 credits)**

Choose one of the following:

- ART 111 Art History: Prehistoric to 1400
- ART 112 Art History: Renaissance to Present
- ENG 210 Introduction to Film
- ENG 246 Short Story & Novel
- ENG 247 Poetry & Drama
- ENG 252 Shakespeare
- ENG 254 Children's Literature
- ENG 255 American Literature – 19th Century
- ENG 256 American Literature – 20th Century
- HUM 131 Cultural Connections
- MUS 131 Understanding Music
- THR 116 Introduction to Theatre

**ADO 7: Think critically**

Program courses meet this requirement

**ADO 8: Make responsible decisions in personal and professional contexts**

Program courses meet this requirement

**ADO 9: Work productively with others, recognizing individual contributions to group success**

Program courses meet this requirement

**ADO 10: Understand and respect the diversity and interdependence of the world's peoples and cultures**

Program courses meet this requirement

**NURSING (LPN to ADN) Related Requirements – (15 credits)**

Take the following:

- BIO 220 Microbiology
- CEM 132 Fundamentals of Organic & Biological Chemistry  
or CEM 137 Chemistry of Life
- FYS 110 Life Maps
- NUR 121 Pharmacology\*
- PSY 252 Developmental Psychology

**NURSING (LPN TO ADN) CORE REQUIREMENTS – (31 credits)**

Take the following:

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

*\* May take before nursing sequence but must be completed prior to NUR 270, NUR 271, and 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 NURSING – CERTIFICATE (LPNU.CERT)

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 receives 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 prerequisite 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 State of Michigan Senate Bill 0621 (2005) Public Act 28 of 2006, students applying for admission will be subject to a criminal background check including fingerprinting. Exclusions for convictions can range from one year to permanent exclusion. Further information can be found at [www.miltcpartnership.com](http://www.miltcpartnership.com) and additional questions should be directed to the Legal Affairs Department.

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.

### Prerequisites are:

- LPN 132 Medications
  - or NUR 121 Pharmacology
- LPN 141 Body Structure & Function
  - or MOA 141 Body Structure & Function
  - or BIO 155 Human Anatomy & Physiology
  - or BIO 253 Human Anatomy and Physiology I
    - and BIO 254 Human Anatomy and Physiology II
- NUR 207 Normal/Therapeutic Nutrition
  - or MOA 145 Normal/Therapeutic Nutrition
  - or LPN 145 Normal/Therapeutic Nutrition

Minimum credits:.....	52
Minimum cumulative GPA:.....	2.0
Minimum grades in all prerequisite and nursing classes*:	2.0
<i>*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.</i>	
Minimum JCC credits:.....	32
MACRAO agreement:.....	No

### GENERAL EDUCATION REQUIREMENTS - (6 credits)

- ENG 131 Writing Experience
- MTH 120 Beginning Algebra or higher

### PRACTICAL NURSING RELATED REQUIREMENTS – (14 credits)

#### Take the following:

- FYS 110 Life Maps
- LPN 132 Medications
  - or NUR 121 Pharmacology
- LPN 141 Body Structure & Function
  - or MOA 141 Body Structure & Function
  - or BIO 155 Human Anatomy & Physiology
  - or BIO 253 Human Anatomy and Physiology I
    - and BIO 254 Human Anatomy and Physiology II
- NUR 207 Normal/Therapeutic Nutrition
  - or MOA 145 Normal/Therapeutic Nutrition
  - or LPN 145 Normal/Therapeutic Nutrition
- MOA 120\* Medical Terminology

### PRACTICAL NURSING CORE REQUIREMENTS – (32 credits)

#### Take the following:

- LPN 131 Foundations of Nursing
- LPN 180 Nursing Care of Adults-1A
- LPN 181 Nursing Care of Adults-1B
- LPN 182 Role of the Practical Nurse
- LPN 183 Nursing Care of Adults II
- LPN 184 Maternal/Child Concepts

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

*NOTE: Nursing courses include various labs and clinicals, this 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 (RADI.AAS)

A radiographer is the allied health professional who uses ionizing radiation to image patients in hospitals and various health clinical settings. Radiographers perform general x-ray imaging of the body and may also go on to perform advanced imaging procedures such as CT, MRI, mammography and more. 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 admission 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 "point 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.
- Students are notified by mail of application/interview results.
- Accepted students begin Spring semester.

*BIO 132 or BIO 155 or BIO 253 and BIO 254, DMS 100, HOC 130 and MOA 120 must be successfully completed before applying to the program.*

Minimum credits: .....	83
Minimum cumulative GPA: .....	2.0
Minimum grade in BIO 132 or BIO 155 or BIO 253/254, DMS 100, HOC 130 and MOA 120 .....	3.0
Minimum grade in all courses: .....	2.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

### GENERAL EDUCATION REQUIREMENTS – (22 credits)

#### ADO 1: Write clearly, concisely and intelligibly (3 credits)

##### Take the following:

ENG 131 Writing Experience

#### ADO 2: Speak clearly, concisely and intelligibly (3 credits)

##### Choose one of the following:

COM 231 Communication Fundamentals

COM 240 Interpersonal Communication

#### ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)

##### Take the following:

MTH 131 Intermediate Algebra or higher level

#### ADO 4: Demonstrate scientific reasoning (4-8 credits)

##### Choose from the following:

BIO 132 Human Biology

or BIO 155 Anatomy & Physiology

or BIO 253 Human Anatomy and Physiology I

and BIO 254 Human Anatomy and Physiology II

#### ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)

##### Take the following:

PSY 140 Introduction to Psychology

#### ADO 6: Understand aesthetic experience and artistic creativity (3 credits)

##### Choose one of the following:

ART 111 Art History: Prehistoric to 1400

ART 112 Art History: Renaissance to Present

ENG 210 Introduction to Film

ENG 246 Short Story & Novel

ENG 247 Poetry & Drama

ENG 252 Shakespeare

ENG 254 Children's Literature

ENG 255 American Literature – 19th Century

ENG 256 American Literature – 20th Century

HUM 131 Cultural Connections

MUS 131 Understanding Music

THR 116 Introduction to Theatre

#### ADO 7: Think critically

##### Program courses meet this requirement

#### ADO 8: Make responsible decisions in personal and professional contexts (3 credits)

##### Take the following:

PHL 236 Ethics

#### ADO 9: Work productively with others, recognizing individual contributions to group success

##### Program courses meet this requirement

#### ADO 10: Understand and respect the diversity and interdependence of the world's peoples and cultures

##### Program courses meet this requirement

### RADIOGRAPHY RELATED REQUIREMENTS – (13 credits)

##### Take the following:

CIS 101 Introduction to Computer Systems

DMS 100 Introduction to Diagnostic Imaging

FYS 110 Life Maps

HOC 130 Introduction to Health Occupations

MOA 120 Medical Terminology

### RADIOGRAPHY CORE REQUIREMENTS – (48 credits)

##### Take the following:

RAD 120 Radiographic Orientation

RAD 121 Radiographic Positioning I

RAD 125 Radiographic Positioning II

RAD 126 Clinical Practicum I

- RAD 162 Clinical Practicum II
- RAD 210 Clinical Practicum III
- RAD 214 Clinical Practicum IV
- RAD 219 Clinical Practicum V
- RAD 160 Fundamentals of Radiologic Science
- RAD 161 Radiographic Exposure
- RAD 212 Special Radiographic Studies
- RAD 213 Radiobiology
- RAD 218 Radiographic Pathology

## RESPIRATORY CARE – ASSOCIATE IN APPLIED SCIENCE (RECA.AAS)

Respirator care is an allied health profession whose practitioners focus on diagnosis and treatment of cardiopulmonary disorders and diseases. A respiratory care practitioner can be instrumental in assisting a physician in the diagnosis, treatment and prevention of a wide spectrum of disorders affecting the heart and lungs, and specializes in the application of scientific knowledge and theory to practical, clinical problems of respiratory care. A respiratory care practitioner is qualified to assume primary clinical responsibility for all respiratory care modalities, including responsibilities involved in supervision of respiratory technician functions.

This is a two-year program leading to an Associate in Applied Science degree. The curriculum consists of integrated didactic and clinical course work in approved clinical education affiliates. The program is designed to prepare the student for employment in the field of respiratory care. Positions are located within hospitals, long-term care facilities, and other outpatient settings.

Upon successful completion, students are eligible to write the national Board for Respiratory Care (NBRC) exams. Satisfactory completion of the NBRC board certifying exams allow the respiratory care practitioner to use the initials of RRT, Registered Respiratory Therapist.

Admission to the program is not guaranteed: entry into the program is competitive and based on a "points system." The order of acceptance of qualified applicants will be based on points achieved.

Minimum credits: .....	91
Minimum cumulative GPA: .....	2.0
Minimum grade in all courses: .....	2.0
Minimum grade in BIO 132 or BIO 155 or BIO 253 and BIO 254, ENG 131, HOC 130, MOA 120 and MTH 131.....	3.0
Minimum JCC credits: .....	12
MACRAO agreement: .....	No

### GENERAL EDUCATION REQUIREMENTS – (22 credits)

#### ADO 1: Write clearly, concisely and intelligibly (6 credits)

**Take the following:**

- ENG 131 Writing Experience
- ENG 132 Writing Experience

#### ADO 2: Speak clearly, concisely and intelligibly (3 credits)

**Choose one of the following:**

- COM 231 Communication Fundamentals
- COM 240 Interpersonal Communication

#### ADO 3: Demonstrate computational skills and mathematical reasoning (3-5 credits)

**Take the following:**

- MTH 131 Intermediate Algebra or higher level

#### ADO 4: Demonstrate scientific reasoning (4-5 credits)

**Choose one of the following:**

- BIO 132 Human Biology
- or BIO 155 Human Anatomy & Physiology
- or BIO 253 Human Anatomy and Physiology I
- and BIO 254 Human Anatomy and Physiology II

#### ADO 5: Understand human behavior and social systems, the principles which govern them, and their implications for the present and future (3-4 credits)

**Take the following:**

- PSY 140 Introduction to Psychology

#### ADO 6: Understand aesthetic experience and artistic creativity (3 credits)

**Choose one of the following:**

- ART 111 Art History: Prehistoric to 1400
- ART 112 Art History: Renaissance to Present
- ENG 210 Introduction to Film
- ENG 246 Short Story & Novel
- ENG 247 Poetry & Drama
- ENG 252 Shakespeare
- ENG 254 Children’s Literature
- ENG 255 American Literature – 19th Century
- ENG 256 American Literature – 20th Century
- HUM 131 Cultural Connections
- MUS 131 Understanding Music
- THR 116 Introduction to Theatre

#### ADO 7: Think critically

Program courses meet this requirement

#### ADO 8: Make responsible decisions in personal and professional contexts

Program courses meet this requirement

#### ADO 9: Working productively with others, recognizing individual contributions to group success

Program courses meet this requirement

#### ADO 10: Understand and respect the diversity and interdependence of the world’s peoples and cultures

Program courses meet this requirement

### RESPIRATORY CARE RELATED REQUIREMENTS – (14 credits)

**Take the following:**

- CEM 131 Fundamentals of Chemistry or higher
- CIS 101 Introduction to Computer Systems
- FYS 110 Life Maps
- HOC 130 Introduction to Health Occupations
- MOA 120 Medical Terminology

**RESPIRATORY CARE CORE REQUIREMENTS – (55 credits)****Take the following:**

- RES 100 Respiratory Care Techniques I
- RES 104 Cardiopulmonary Assessment I
- RES 110 Respiratory Care Techniques II
- RES 114 Cardiopulmonary Pathophysiology I
- RES 115 Clinical Practice I
- RES 120 Respiratory Care Techniques III
- RES 124 Respiratory Pharmacology
- RES 125 Clinical Practice II
- RES 126 Cardiopulmonary Pathophysiology II
- RES 204 Diagnostic Theory
- RES 205 Clinical Practice III
- RES 208 Advanced Cardiopulmonary Anatomy & Physiology
- RES 210 Perinatal & Pediatric Respiratory Care
- RES 220 Respiratory Seminar
- RES 225 Clinical Practice IV

**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 is 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 four to five terms at the University of Michigan. Students must meet the admission 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 includes 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 postgraduate level. They may pursue medical, osteopathic or dental school, graduate level pharmacy programs and physicians 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