



# Health Sciences Programs



*Stay close. Go far.*



## *Health Sciences Division*

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# Hagerstown Community College

## Health Sciences Programs

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*Note: Information on nursing, certified nursing assistants/geriatric nursing assistants, and certified medicine aides can be found in the Nursing Booklet. This booklet is available online at [www.hagerstowncc.edu/academics/divisions/nursing](http://www.hagerstowncc.edu/academics/divisions/nursing).*



### WHAT IS THE COMPUTED TOMOGRAPHY (CT) PROGRAM?

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Computed tomography (CT) is a medical imaging modality that produces cross-sectional images of the body using x-rays and digital computers. The computed tomography technologist is a skilled professional who is qualified by education and clinical experience to produce cross-sectional images of the patient.

### WHERE DO CT TECHNOLOGISTS WORK?

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Certified CT technologists work in hospitals, private offices, surgical centers, oncology centers, and with mobile CT imaging companies and temporary medical staffing agencies.

### WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?

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CT technologists and radiographers are in high demand. Job growth is expected to increase by about 17 percent from 2008 to 2018 (source: [www.bls.gov/oco](http://www.bls.gov/oco)).

### WHAT DO CT TECHNOLOGISTS EARN?

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Earnings depend on experience, education, and geographical location. The mean average salary in the state of Maryland for CT technologists is \$65,820. The national mean average salary is \$54,180 (source: [www.bls.gov](http://www.bls.gov)).

### WHY SHOULD I CHOOSE HCC?

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- HCC has a flexible clinical practicum, which provides students with exposure to a variety of clinical settings, learning experiences, and locations
- Graduates of HCC's CT imaging program are eligible to sit for the American Registry of Radiologic Technologists (ARRT)

- The CT program focuses on the physics, theories, application, and instrumentation of computed tomography equipment needed for the ARRT certification examination
- Course content covers imaging of the body areas in relation to their anatomical composition, pathology, and physiology, as well as image quality
- Lecture courses for the CT imaging program are provided online

### HOW DO I GET MORE INFORMATION?

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**Certificate**

**Computed Tomography**

RAD	212	Cross-Sectional Anatomy .....	3
RAD	218	Principles of CT Imaging.....	4
RAD	220	CT Imaging Practicum I .....	2
RAD	220A	CT Imaging Practicum II .....	2
RAD	220B	CT Imaging Practicum III .....	2
<b>Certificate Requirement .....</b>			<b>13</b>

**Admission Requirements**

Information on admission requirements can be found online at [www.hagerstowncc.edu/academics/programs/computed-tomography-imaging](http://www.hagerstowncc.edu/academics/programs/computed-tomography-imaging).

**Program Requirements**

All computed tomography students must:

1. Receive a minimum grade of 75 percent (C grade) in each computed tomography course.
2. Meet program competency requirements.
3. Clinical education coursework must be completed within two years to satisfy program requirements and ARRT certification eligibility requirements.
4. Students planning to enroll in the clinical education component of the program must meet with the program coordinator no later than one month prior to start of the academic semester.
5. Enrollment in RAD 220 must be within 12 months of completing RAD 218.

Students who receive a final mark of unsatisfactory in the clinical laboratory or clinical experience despite a passing theory grade, will not be permitted to progress in the computed tomography program and will receive a final grade of “F” for the course and are not eligible for readmission.

Students who do not meet program, course, technical, health and radiation standards that result in termination from the computed tomography program by the Vice-President of Academic Affairs, are not eligible for readmission. This includes students who cannot meet safety standards, and students who violate the college’s Honor Code and Standards of Conduct; the radiography program Standards of Conduct; and the American Registry of Radiologic Technologists Standards of Ethics.

**Additional Information**

Additional information on program requirements including criminal background checks, drug screening, clinical site placement, readmission to the CT program, and transferring from another college or CT program can be found at [www.hagerstowncc.edu/academics/programs/computed-tomography-imaging](http://www.hagerstowncc.edu/academics/programs/computed-tomography-imaging).

**Ionizing Radiation and Pregnancy**

Reporting of pregnancy to program officials is voluntary on the part of the student. Regulatory Guide 8.13, Instruction Concerning Prenatal Radiation Exposure, ([www.nrc.gov](http://www.nrc.gov)) published by the United States Regulatory Commission provides information and guidelines.

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/rad](http://www.hagerstowncc.edu/academics/divisions/health-science/rad).

### WHAT IS THE DENTAL ASSISTING PROGRAM?

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The dental assisting program provides students with the knowledge and skills necessary to become an integral and qualified member of the dental team. This program also prepares students to sit for the Maryland General Dental Assisting Expanded Function (MGD) exam and the Radiation Health and Safety (RHS) exam, both administered by DANB.

### WHAT DOES A DENTAL ASSISTANT DO?

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- Performs a variety of tasks in patient care, as well as office and laboratory duties
- Works closely with and under direct supervision of a dentist
- Sterilizes and disinfects instruments, as well as prepare operatories for procedures
- Obtains and updates patient medical and dental history
- Obtains and processes dental radiographic surveys
- Prepares and manipulates various dental materials
- Assists the dentist in handling instruments and materials

### WHERE DO DENTAL ASSISTANTS WORK?

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A dental assistant can work in a variety of places, but the majority of dental assistants work in private dental offices. Other work places include specialty offices, hospitals, employment services, consulting services, research facilities, federally or government-owned facilities, and colleges, universities, and professional schools.

### WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?

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According to the Bureau of Labor and Statistics, dental assisting is one of the fastest growing occupations and is expected to have grown 36 percent by 2018. Population growth, greater retention of natural teeth, and an increased focus on preventative care are reasons for this increase.

### WHAT DO DENTAL ASSISTANTS EARN?

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In 2009, the annual mean salary in Maryland was \$35,170. Depending on experience, a dental assistant's hourly wage varies between \$11.59 and \$22.90 per hour (source: [www.bls.gov/oco](http://www.bls.gov/oco)).

### WHY SHOULD I CHOOSE HCC?

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- The dental assisting faculty is knowledgeable and well-versed in the subject matter
- Students get hands-on experience in HCC's dental lab, which is well equipped for pre-clinical education
- HCC's program is recognized by the Maryland State Board of Dental Examiners
- Students now have the option to further expand their skills through the Orthodontics for the Dental Assistant course that is offered during the summer semester

### HOW DO I GET MORE INFORMATION?

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Contact:  
Theresa Marks, MS, RDH, CDA  
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**Certificate**

**Dental Assisting**

BIO	110	Human Biology .....	3
DEN	101	Dental Assisting I .....	4
DEN	104	Dental Radiology.....	3
DEN	107	Dental Materials .....	3
DEN	109	Oral Anatomy .....	3
DEN	110	Dental Assisting II .....	4
DEN	115	Dental Office Management.....	2
DEN	120	Dental Specialties .....	3
DEN	140	Dental Assisting Externship I .....	3
DEN	240	Dental Assisting Externship II .....	4
SPD	108	Introduction to Human Communication .....	3

**Certificate Requirement .....35**

**Recommended course sequence:**

**Fall semester:**

DEN	101	Dental Assisting I .....	4
DEN	109	Oral Anatomy .....	3
BIO	110	Human Biology .....	3
DEN	104	Dental Radiology.....	3
DEN	107	Dental Materials .....	3

**Spring semester:**

DEN	110	Dental Assisting II .....	4
DEN	115	Dental Office Management.....	2
DEN	120	Dental Specialties .....	3
DEN	140	Dental Assisting Externship I .....	3
SPD	108	Introduction to Human Communication .....	3

**Summer semester:**

DEN	240	Dental Assisting Externship II .....	4
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**Admission Requirements**

Information on admission requirements, selection criteria and final acceptance can be found online at [www.hagerstowncc.edu/academics/programs/dental-assisting](http://www.hagerstowncc.edu/academics/programs/dental-assisting).

**Program Requirements**

All dental assisting students must:

1. Receive a minimum grade of 75 percent in each dental assisting course and a “C” or better in BIO 110 and SPD 108
2. Meet program competency requirements for both the dental lab and externship experiences

*See additional program requirements on page 6*



**Program Requirements (continued)**

Students who do not meet program or course standards that result from termination from the dental assisting program by the program coordinator and the director, Health Sciences Division, are not eligible for readmission. This includes students who cannot meet safety standards, and students who violate the college's Honor Code and Standards of Conduct, the dental assisting program's Standards of Conduct and the American Dental Association's Principle of Ethics and Code of Professional Conduct.

**Criminal Background Checks**

All dental assisting students who are offered admission to the dental assisting program will be required to submit to a complete criminal background check. A separate criminal background check may also be required by an externship site prior to beginning an externship rotation.

**Drug Screen**

All students who are offered admission to the dental assisting program will be required to submit to a drug screen. Drug screen results are disclosed to externship facilities as required. A random drug screen may also be requested at any time during the dental assisting program if a dental assisting faculty member or an externship facility representative has reasonable cause to suspect that a student is impaired and poses a safety concern to patients or others. If a student is denied access by an externship site because of drug screen results, and as such, cannot meet program requirements, the student will be dismissed from the dental assisting program.

**Pathways**

**Pathway I**—Student who has no dental background; completes all dental assisting required courses; receives certificate at completion of program; can take the Maryland General Dental Assisting Expanded Functions (MGD) exam and the DANB Radiation Health and Safety (RHS) exam.

**Pathway II**—Student who is currently working in a dental office and wants to be certified as a qualified dental assistant (expanded functions in Maryland); student must prove at least 1 year full-time or two years part-time dental assisting experience in a dental office (letter from current employer); completes Dental Assisting II course only; can take the Maryland General Dental Assisting Expanded Functions (MGD) exam.

**Pathway III**—Student who is currently working in a dental office and wants to become certified as a dental radiation technologist; student must prove at least six months employment at a dental office (letter from current employer); completes Dental Radiology course only; can take the DANB Radiation and Health and Safety (RHS) exam.

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/den](http://www.hagerstowncc.edu/academics/divisions/health-science/den).

**Orthodontics**

For those who are currently working in the dental field, there is a course, Orthodontics for the Dental Assistant, which qualifies students to take the Maryland Orthodontic Assisting Expanded Functions exam administered by DANB. This orthodontic course option is DEN 245 which is offered during the summer semester.



### **WHAT IS THE MAGNETIC RESONANCE IMAGING (MRI) PROGRAM?**

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Magnetic Resonance Imaging (MRI) is the medical specialty that uses strong magnetic field and radio waves to create images of the body. The MRI technologist is a skilled professional that is qualified by education and experience to create images of the body. The MRI program provides a comprehensive overview of MRI, including its historical development.

### **HOW IS THE CURRICULUM DESIGNED?**

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Concepts such as electricity and magnetism, image formation and the factors affecting image are covered. Magnetic resonance hardware and system operation and advanced imaging techniques are also discussed. The clinical component is designed to provide students with a flexible clinical education experience, as well as assisting with completion of the American Registry of Radiologic Technologists' clinical education requirements for certification in MRI.

### **WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?**

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Radiographers and MRI technologists are in high demand. Job growth is expected to increase by 20 percent through 2012 (source: *www.bls.gov/oco*).

### **WHAT DO MRI TECHNICIANS EARN?**

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Earnings depend on experience, education, and geographical location. The mean average salary in the state of Maryland for MRI technologists is \$65,820. The national mean average salary is \$54,180 (source: *www.bls.gov*).

### **WHY SHOULD I CHOOSE HCC?**

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- HCC has a flexible clinical practicum, which provides students with exposure to a variety of clinical settings, learning experiences, and locations
- Graduates of HCC's MRI program are eligible to sit for the American Registry of Radiologic Technologists (ARRT)
- The MRI program focuses on the physics, theories, application, and instrumentation of magnetic resonance imaging equipment needed for the ARRT certification examination
- Course content covers imaging of the body areas in relation to their anatomical composition, pathology, and physiology, as well as image quality
- Lecture courses for the MRI program are provided online or in an online/lecture hybrid format

### **HOW DO I GET MORE INFORMATION?**

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Contact:  
Coordinator, Medical Imaging Programs  
301-790-2800, ext. 205

**Certificate****Magnetic Resonance Imaging**

RAD	212	Cross-Sectional Anatomy .....	3
RAD	222	Principles of MR Imaging.....	4
RAD	224	MRI Clinical Practicum I.....	2
RAD	224A	MRI Clinical Practicum II.....	2
RAD	224B	MRI Clinical Practicum III.....	2
<b>Certificate Requirement .....</b>			<b>13</b>

**Admission Requirements**

Information on admission requirements, selection criteria and final acceptance can be found online at [www.hagerstowncc.edu/academics/programs/magnetic-resonance-imaging](http://www.hagerstowncc.edu/academics/programs/magnetic-resonance-imaging).

**Program Requirements**

All magnetic resonance imaging students must:

1. Receive a minimum grade of 75 percent (C grade) in each magnetic resonance imaging course.
2. Meet program competency requirements.
3. Enrollment in RAD 224 must be within 12 months of completing RAD 222.
4. Clinical education coursework must be completed within two years to satisfy program requirements and ARRT certification eligibility requirements.
5. Students planning to enroll in the clinical education component of the program must meet with the program coordinator no later than one month prior to the start of the academic semester.

Students who receive a final mark of unsatisfactory in the clinical laboratory or clinical experience, despite a passing theory grade, will not be permitted to progress in the magnetic resonance imaging program and will receive a final grade of “F” for the course and are not eligible for readmission.

Students who do not meet program, course, technical, health and radiation standards that result in termination from the magnetic resonance imaging program by the Vice-President of Academic Affairs, are not eligible for readmission. This includes students who cannot meet safety standards, and students who violate the college’s Honor Code and Standards of Conduct, the radiography program Standards of Conduct, and the American Registry of Radiologic Technologists Standards of Ethics.

**Additional Information**

Additional information on program requirements including criminal background checks, drug screening, clinical site placement, readmission to the MRI program, and transferring from another college or MRI program can be found at [www.hagerstowncc.edu/academics/programs/magnetic-resonance-imaging](http://www.hagerstowncc.edu/academics/programs/magnetic-resonance-imaging).

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/rad](http://www.hagerstowncc.edu/academics/divisions/health-science/rad).

## WHAT DOES A MAMMOGRAPHER DO?

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Mammographers use sophisticated low-dose x-ray equipment to produce images of the breast. A mammographer's responsibilities include performing breast imaging procedures, recording a patient's clinical history, preparing patients for procedures, operating and evaluating breast images for technical quality, and assisting with interventional procedures and quality control tests.

## WHERE DO MAMMOGRAPHERS WORK?

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Mammographers work in hospitals and outpatient care centers under the direct supervision of board-certified radiologists. Most full-time mammographers work about 40 hours per week. This may include evening and weekend hours.

## WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?

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Employment opportunities for mammographers are expected to increase due to the rise in demand for mammography procedures as American women increase in age. According to the U.S. Bureau of Labor Statistics, the employment of radiographers is expected to increase by 17 percent from 2008 to 2018, faster than average for all occupations. Radiographers with knowledge of more than one diagnostic imaging modality, such as computed tomography (CT), magnetic resonance imaging (MRI), and mammography will have the best employment opportunities.

## WHAT IS THE ESTIMATED SALARY FOR A MAMMOGRAPHER?

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Earnings for the mammographer vary depending on experience, education and skill level. According to the U.S. Bureau of Labor Statistics, the median annual wage for radiographers was \$52,210 in 2008.

## WHY SHOULD I CHOOSE HCC?

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- Completion of the program will equip the student with the necessary clinical requirements needed to apply for the ARRT certification exam in mammography
- HCC is the only community college in the state of Maryland to offer students the opportunity to acquire mammography clinical requirements and become ARRT registry eligible
- The RAD 216 (Mammography for Radiographers) course provides the technologist with the 40 hours of initial mammography education required by the ARRT and MQSA if the radiographer is going to have on-the-job training
- Clinical education is completed in state-of-the-art health care facilities

## HOW DO I GET MORE INFORMATION?

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Coordinator, Medical Imaging Programs  
301-790-2800, ext. 205

## Letter of Recognition

### Mammography

RAD	216	Mammography for Radiographers .....	3
RAD	216A	Mammography Practicum I.....	2
RAD	216B	Mammography Practicum II.....	2
<b>Letter of Recognition Requirement.....</b>			<b>7</b>

### Admission Requirements

Information on admission requirements can be found online at [www.hagerstowncc.edu/academics/programs/mammography](http://www.hagerstowncc.edu/academics/programs/mammography).

### Program Requirements

All mammography students must:

1. Receive a minimum grade of 75 percent (C grade) in each mammography course.
2. Meet program competency requirements.
3. Enrollment in RAD 216A must be within one year of completion of RAD 216.
4. Clinical education coursework must be completed within two years to satisfy program requirements and ARRT certification eligibility requirements.
5. Students planning to enroll in the clinical education component of the program must meet with the program coordinator no later than one month prior to the start of the academic semester.

Students who receive a final mark of unsatisfactory in the clinical laboratory or clinical experience, despite a passing theory grade, will not be permitted to progress in the mammography program and will receive a final grade of “F” for the course and are not eligible for readmission.

Students who do not meet program, course, technical, health and radiation standards that result in termination from the mammography program by the Vice-President of Academic Affairs, are not eligible for readmission. This includes students who cannot meet safety standards, and students who violate the college’s Honor Code and Standards of Conduct, the radiography program Standards of Conduct, and the American Registry of Radiologic Technologists Standards of Ethics.

### Additional Information

Additional information on program requirements including criminal background checks, drug screening, clinical site placement, readmission to the Mammography program, and transferring from another college or Mammography program can be found at [www.hagerstowncc.edu/academics/programs/mammography](http://www.hagerstowncc.edu/academics/programs/mammography).

### Ionizing Radiation and Pregnancy

Reporting of pregnancy to program officials is voluntary on the part of the student. Regulatory Guide 8.13, Instruction Concerning Prenatal Radiation Exposure, ([www.nrc.gov](http://www.nrc.gov)) published by the United States Regulatory Commission provides information and guidelines.

### Technical Standards

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/rad](http://www.hagerstowncc.edu/academics/divisions/health-science/rad).

## **WHAT DOES A MEDICAL ASSISTANT DO?**

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Medical assistants work in healthcare facilities performing routine clinical skills and administrative tasks. Administrative duties may include, but are not limited to, greeting patients, answering phones, updating and filing patients' medical records, completing insurance forms, and handling billing. Clinical duties may include, but are not limited to, recording vital signs, preparing patients for examinations, assisting the physician during procedures, giving vaccinations, and performing basic laboratory tests.

## **WHAT KIND OF JOB OPPORTUNITIES ARE AVAILABLE FOR A MEDICAL ASSISTANT?**

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Medical assistants work in hospitals, physician offices, clinics, and other healthcare settings.

## **WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?**

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Healthcare is a fast-growing industry. Employment of medical assistants is expected to grow 35 percent from 2006 to 2016, much faster than the average for all occupations. As the health care industry expands because of technological advances in medicine as well as the growth and aging of the population, there will be an increased need for all health care workers. Increasing use of medical assistants in the rapidly growing health care industry will further stimulate job growth (source: *www.bls.gov/oco*).

## **WHAT DO MEDICAL ASSISTANTS EARN?**

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Earnings vary depending on experience, education, and skill level. According to the U.S. Bureau of Labor Statistics, the median wage for medical assistants was \$28,300 in 2008.

## **WHY SHOULD I CHOOSE HCC?**

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- Lower tuition fees compared to other area programs
- HCC's Middle States accreditation allows students to transfer their credits to another educational institution
- Networking advantages—program faculty members are employed from a variety of medical practices and healthcare sites in the area
- An externship coordinator is available to assist students in their clinical externship experience
- Required courses are needed in other allied health programs enabling the student to work toward multiple certificates at one time

## **HOW DO I GET MORE INFORMATION?**

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Contact:

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**A.A.S. Degree**

**Medical Assistant**

**General Education Requirements 21 Credits**

**Arts/Humanities**

Select from approved General Education course list ..... 3

**Behavioral/Social Sciences**

PSY 201 General Psychology ..... 3

**Biological/Physical Science**

BIO 110 Human Biology ..... 3

**English**

ENG 101 English Composition ..... 3

ENG 102 Composition and Literature ..... 3

**OR**

SPD 108 Introduction to Human Communication .....(3)

**Information Literacy**

IST 102 Introduction to Information Technology ..... 3

**Mathematics**

MAT 114 Introduction to Applied Algebra ..... 3

**OR**

MAT 101 College Algebra .....(3)

**Program Requirements 40 Credits**

BUS 113 Business Communication ..... 3

MAP 102 Medical Terminology ..... 3

MAP 105 Medical Office Management ..... 4

MAP 108 Medical Records Analysis and Coding ..... 4

MAP 110 Introduction to Health Science Professions and Technology ..... 3

MAP 205 Diagnostic Laboratory Procedures ..... 3

MAP 210 Clinical Medical Assistant ..... 4

MAP 217 Medical Assistant Externship ..... 4

MGT 103 Principles of Management ..... 3

PLB 105 Phlebotomy ..... 3

PLB 106 Phlebotomy Externship ..... 3

SOC 101 Introduction to Sociology ..... 3

**Electives 3 Credits**

**Some recommended courses are listed below.**

MAP 206 Advanced Coding .....(3)

MGT 214 Small Business Management .....(3)

**Degree Requirement.....64**

*See additional information for degree program on page 13*

**Certificate**

**Medical Assistant**

This certificate program is designed for the student interested in an entry level position as a medical assistant in a medical office.

BIO	110	Human Biology .....	3
IST	102	Introduction to Information Technology.....	3
MAP	102	Medical Terminology.....	3
MAP	105	Medical Office Management.....	4
MAP	108	Medical Records Analysis and Coding .....	4
MAP	110	Introduction to Health Science Professions and Technology.....	3
MAP	205	Diagnostic Laboratory Procedures.....	3
MAP	210	Clinical Medical Assistant.....	4
MAP	217	Medical Assistant Externship .....	4
PLB	105	Phlebotomy .....	3
PLB	106	Phlebotomy Externship .....	3

**Certificate Requirement .....37**

**Additional Information for degree and certificate programs**

Medical assistant students in both the degree and the certificate programs must maintain a grade of “C” or better in all required courses.

Students must provide appropriate health records that include a history and physical, required immunizations, and a negative TB test prior to externship. Students must also have a current American Heart Association Healthcare Provider CPR certification as well as first aid certification and meet the program’s technical standards.

Students who successfully complete the program are eligible to sit for the American Medical Technologists national certification exam in medical assisting.

- \* *In order to sit for the American Medical Technologists national certification exam in medical assisting, graduates must have proof of High School diploma or G.E.D.*
- \* *There is a non-compensated externship experience in which students work in an actual ambulatory care setting. Externship sites may have their own requirements that students must meet prior to their externship experience.*

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/map](http://www.hagerstowncc.edu/academics/divisions/health-science/map).



### **WHAT DO MEDICAL CODING AND REIMBURSEMENT SPECIALISTS DO?**

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A coding specialist is a type of health information technician who analyzes and codes medical record information for reimbursement purposes. Coding specialists assign codes to each diagnosis and procedure through the use of both manual and electronic classification systems. Medical insurance programs reimburse for medical care based on medical coding. Coding specialists may use several coding systems for hospital, physician, and ambulatory settings.

### **WHERE DO CODING SPECIALISTS WORK?**

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Coding specialists work in hospitals, physician offices, clinics, and other healthcare settings such as medical insurance companies and quality review organizations.

### **WHAT IS THE EMPLOYMENT OUTLOOK LIKE FOR THIS CAREER?**

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Healthcare information is a fast growing industry. Employment of health information technicians is expected to increase 20 percent from 2008 to 2018. Employment growth will result from increasing numbers of medical tests, procedures, and treatments. Coding specialists that demonstrate a strong understanding of computer technologies will be in particularly high demand (source: [www.bls.gov/oco](http://www.bls.gov/oco)).

### **WHAT IS THE ESTIMATED SALARY FOR A CODING SPECIALIST?**

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The median annual wage of health information technicians was \$30,610 in May 2008 (source: [www.bls.gov/oco](http://www.bls.gov/oco)).

### **WHY SHOULD I CHOOSE HCC?**

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- Lower tuition and fees compared to other area programs
- HCC's Middle States accreditation allows students to transfer their credits to another educational institution
- Coding classes are taught by coding specialists with many years of experience in the field
- Networking advantages – program faculty members are employed from a variety of healthcare sites in the area
- Required courses are needed in other allied health programs enabling the student to work toward additional certificates at one time

### **HOW DO I GET MORE INFORMATION?**

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Contact:  
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Phlebotomy  
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**Certificate**

**Medical Coding and Reimbursement Specialist**

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BIO	110	Human Biology .....	3
IST	102	Introduction to Information Technology.....	3
MAP	102	Medical Terminology.....	3
MAP	105	Medical Office Management.....	4
MAP	108	Medical Records Analysis and Coding .....	4
MAP	110	Introduction to Health Science Professions and Technology.....	3
MAP	206	Advanced Coding .....	3
MAP	211	Coding Simulation and Certification Preparation .....	3

**Certificate Requirement .....26**

**Additional Information**

Medical coding and reimbursement certificate students must maintain a grade of “C” or better in all required courses. Successful graduates are prepared to pursue positions in medical billing offices, medical collection agencies, and insurance companies. Successful graduates are also eligible to sit for national certification exams as a professional coder and reimbursement specialist.

*\* In order to sit for the national certification exams as a professional coder and reimbursement specialist, graduates must have proof of High School diploma or G.E.D.*

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/map](http://www.hagerstowncc.edu/academics/divisions/health-science/map).

### WHAT IS A PARAMEDIC?

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Paramedics provide emergency care to the victims of medical and trauma emergencies. The care begins when they arrive on the scene and continues as they transport the victims to the hospital where definitive care is provided by doctors and nurses.

### HOW IS THE CURRICULUM DESIGNED?

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The curriculum is divided into several areas of study and experience and consists of lecture, laboratory, clinical experience, and field experience. Emphasis is placed on the knowledge and skills of the paramedic to meet the needs of individuals in times of an emergency. Courses in general education provide the student with the scientific and social background to function as an effective healthcare provider.

### WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?

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Paramedic employment is expected to grow substantially, specifically in cities and areas with private ambulance services. An expected job growth of nine percent is expected between 2008 and 2018 for paramedics and emergency technicians. This growth is due to an increasing aging population and the need for more specialized treatment. More and more patients are transferred by ambulance to highly specialized medical centers, increasing the need for paramedics (source: [www.bls.gov/oco](http://www.bls.gov/oco)).

### WHAT DO PARAMEDICS EARN?

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Earnings vary by job, geographic location, employment setting, training, and education. Salaries typically range between \$9.08 to \$23.77 per hour (source: [www.bls.gov/oco](http://www.bls.gov/oco)). In addition, paramedic certification allows job candidates to be more competitive in applying for police, fire, and federal government jobs, which generally have higher pay scale and greater opportunities for job advancement.

### WHY SHOULD I CHOOSE HCC?

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- Classes are offered in the evenings, which allows students to work during the day
- Students train in a newly renovated classroom and lab space with simulation and an embedded ambulance chassis
- The program prepares students to sit for the National Registry Written and Practical Examination and state licensure as an Emergency Medical Technician—Paramedic
- Middle States accreditation allows students to transfer credits to another education institution
- Guaranteed class offerings means that courses will be available for interested students
- Program training provides excellent practicum experience
- The program is taught using national standards, while integrating local protocols
- For those students who are currently licensed at the EMT-I level, HCC provides a one-year program that allows them to “bridge” to paramedics, emphasizing paramedic theory and practice

### HOW DO I GET MORE INFORMATION?

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Contact:  
Devin Buries  
Instructor and Program Coordinator,  
EMS/Paramedic  
301-790-2800, ext. 436  
[dsburies@hagerstowncc.edu](mailto:dsburies@hagerstowncc.edu)

**A.A.S. Degree**

**Paramedic Emergency Services**

**General Education Requirements**

**29 Credits**

**English**

ENG	101	English Composition .....	3
ENG	102	Composition and Literature .....	3

**Arts/Humanities**

Select from approved General Education course list .....			3
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**Biological and Physical Science**

BIO	103	Anatomy and Physiology I.....	4
BIO	104	Anatomy and Physiology II.....	4

**Mathematics**

MAT	101	College Algebra .....	3
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**Social /Behavioral Science**

SOC	101	Introduction to Sociology .....	3
PSY	201	General Psychology .....	3

**Information Literacy**

IST	102	Introduction to Information Technology.....	3
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**Paramedic Course Sequence**

**Program Requirements**

**37 credits**

PES	101	Emergency Medical Technician – Basic.....	4
PES	102	Introduction to EMS .....	2
PES	103	EMS Practicum I .....	1
PES	104	EMS Operations .....	3
PES	105	Patient Assessment and Airway Management .....	2
PES	106	Pre-hospital Pharmacology.....	2
PES	107	Shock Trauma Resuscitation .....	2
PES	108	EMS Practicum II .....	3
PES	201	Medical Emergencies I.....	3
PES	202	Medical Emergencies II.....	3
PES	203	Medical Emergencies III.....	3
PES	204	Special Topics in Paramedic Emergency Services .....	2
PES	205	EMS Practicum III .....	3
PES	206	EMS Practicum IV.....	3
PES	207	Seminar in Paramedic Emergency Services .....	1

**Restricted Electives**

**3-4 credits**

**Choose one course:**

PES	110	Anatomy and Physiology for EMS providers .....	(4)
<b>OR</b>			
SPD	103	Public Speaking.....	(3)

**Degree Requirements** ..... **69-70**

See additional admission and program requirements on page 17

### Admission Requirements

Information for admission requirements can be found online at [www.hagerstowncc.edu/academics/programs/paramedic-emergency-services](http://www.hagerstowncc.edu/academics/programs/paramedic-emergency-services).

### Program Requirements

Students practice selected procedures on each other in the college EMT laboratory. All paramedic students must receive:

1. A minimum grade of 70 percent in each paramedic course and
2. A mark of satisfactory for both the skills laboratory and clinical experiences. Students who receive a final mark of unsatisfactory in the skills laboratory or clinical experience, despite a passing theory grade, will not be permitted to progress in the paramedic program and will receive a final grade of "F" for the course.

Students who do not meet program or course standards that result in termination from the paramedic program by the Coordinator, Paramedic Emergency Services are not eligible for readmission. This includes students who cannot meet safety standards, students who violate the college's Honor Code and Standards of Conduct, and the criminal code described by the National Registry of Emergency Medical Technicians.

### Additional Information

Additional information on program requirements including criminal background checks, drug screening, readmission to the paramedic program, and transferring to or from another college or paramedic program can be found at [www.hagerstowncc.edu/academics/programs/paramedic-emergency-services](http://www.hagerstowncc.edu/academics/programs/paramedic-emergency-services).

### Selection Criteria

Students will be admitted to the paramedic emergency services program each fall. In order to progress in the program at the end of the fall semester, students must complete interviews by the program's medical director and faculty prior to final examinations, and successfully complete PES 101 and the required clinical and field practicums. The paramedic program is limited to 18 students per academic year and a total of 36 students in the program. This limit is based upon availability of clinical locations and the number of clinical hours required by the program. If more than 18 students apply to the paramedic program within one academic year, selection will be based on experience and previous course completions.

### Technical Standards

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/programs/paramedic-emergency-services](http://www.hagerstowncc.edu/academics/programs/paramedic-emergency-services).

### Articulation Agreements

Students who are considering transferring to a four year college should inform their advisers at the earliest opportunity so that their course selection can be planned.

**Certificate**

**Paramedic Emergency Services**

PES	101	Emergency Medical Technician—Basic.....	4
PES	102	Introduction to EMS .....	2
PES	103	EMS Practicum I .....	1
PES	104	EMS Operations .....	3
PES	105	Patient Assessment and Airway Management .....	2
PES	106	Pre-hospital Pharmacology .....	2
PES	107	Shock Trauma Resuscitation .....	2
PES	108	EMS Practicum II .....	3
PES	110	Anatomy and Physiology for EMS Providers .....	4
PES	201	Medical Emergencies I .....	3
PES	202	Medical Emergencies II .....	3
PES	203	Medical Emergencies III .....	3
PES	204	Special Topics in Paramedic Emergency Services .....	2
PES	205	EMS Practicum III .....	3
PES	206	EMS Practicum IV .....	3
PES	207	Seminar in Paramedic Emergency Services .....	1
<b>Certificate Requirements .....</b>			<b>41</b>

**Program Requirements**

*See additional program and admission requirements on page 17*

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/programs/paramedic-emergency-services](http://www.hagerstowncc.edu/academics/programs/paramedic-emergency-services).

Certificate

Paramedic Emergency Services:  
EMT-I to EMT-P Bridge

For those students who are currently licensed at the EMT-I level, HCC provides a one-year program that allows them to “bridge” to paramedics, emphasizing paramedic theory and practice.

PES	110	Anatomy and Physiology for EMS Providers .....	4
PES	111	EMT Intermediate to Paramedic Transition.....	3
PES	201	Medical Emergencies I.....	3
PES	202	Medical Emergencies II.....	3
PES	203	Medical Emergencies III.....	2
PES	204	Special Topics in Paramedic Emergency Services .....	2
PES	205	EMS Practicum III .....	3
PES	206	EMS Practicum IV .....	3
PES	207	Seminar in Paramedic Emergency Services .....	1

**Degree Requirements .....**24

**Program Requirements**

*See additional program requirements on page 17*

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/programs/paramedic-emergency-services-emt-i-emt-p-bridge](http://www.hagerstowncc.edu/academics/programs/paramedic-emergency-services-emt-i-emt-p-bridge).



## WHAT IS A PHLEBOTOMIST?

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A phlebotomist collects blood samples from patients by various techniques and may be responsible for the collection of other non-blood specimens (ex., throat culture specimens). Other duties may include preparing specimens for analysis, handling and transporting specimens, drug testing collection, and point of care testing.

A phlebotomist is an important member of the medical laboratory team. Patient care is dependent on proper collection of specimens, as those specimens often determine diagnoses and treatment. In addition, the phlebotomist is often the patient's only contact with the laboratory department.

## WHERE DO PHLEBOTOMISTS WORK?

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Phlebotomists work in hospitals, clinics, physician office laboratories, outpatient laboratories, and private companies (ex., specimen collection for insurance agencies).

## WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?

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Healthcare is a fast-growing industry. Employment of laboratory technicians, including phlebotomists, is expected to grow 14 percent from 2008 to 2018. As the health care industry expands because of technological advances in medicine as well as the growth and aging of the population, there will be an increased need for all health care workers (source: [www.bls.gov/oco](http://www.bls.gov/oco)).

## WHAT DO PHLEBOTOMISTS EARN?

---

Earnings for phlebotomists vary depending on experience, education, and skill level. According to the U.S. Department of Labor Statistics, the average annual salary for a phlebotomist is \$26,000.

## WHY SHOULD I CHOOSE HCC?

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- Lower tuition fees compared to other area programs
- HCC's Middle States accreditation allows students to transfer credits to another educational institution
- Networking advantages: members of HCC's phlebotomy faculty are employed by the area's largest laboratory provider
- An externship coordinator available to assist students in their clinical externship experience
- Required courses are included in other allied health programs, enabling you to work toward multiple programs at one time
- Newly-renovated laboratory space in the Career Programs Building

## HOW DO I GET MORE INFORMATION?

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Contact:

Melanie Rowland, MSPH  
Instructor, Medical Assisting/Phlebotomy  
Program Coordinator, Medical  
Assisting and Phlebotomy  
301-790-2800, ext. 624  
[msrowland@hagerstowncc.edu](mailto:msrowland@hagerstowncc.edu)

Dawn Nally, RN, BSN  
Instructor, Medical Assisting and  
Phlebotomy  
301-790-2800, ext. 389  
[dgnally@hagerstowncc.edu](mailto:dgnally@hagerstowncc.edu)

**Certificate**

**Phlebotomy**

This certificate program is designed to prepare students to serve as phlebotomists in medical office, laboratory, or hospital settings. Foundational courses in introduction to medical assisting and medical terminology are required. Students receive lecture as well as competency-based training in a variety of aspects of phlebotomy.

IST	102	Introduction to Information Technology.....	3
MAP	102	Medical Terminology.....	3
MAP	110	Introduction to Health Science Professions and Technology.....	3
PLB	105	Phlebotomy .....	3
PLB	106	Phlebotomy Clinical Externship.....	3
<b>Certificate Requirement .....</b>			<b>15</b>

**Additional Information**

Students receive lecture as well as competency-based training in a variety of aspects of phlebotomy. There is also a non-compensated externship experience in which students work in an actual medical laboratory setting. Externship sites may have their own requirements that students must meet prior to their externship experience. You will be required to work a total of 120 hours and perform a minimum of 125 successful venipunctures during the externship.

Phlebotomy certificate students must maintain a grade of “C” or better in all required courses. Students must provide appropriate health records that include a history and physical, required immunizations, and a negative TB test prior to externship. Successful graduates are eligible to sit for a national certification exam as a phlebotomy technician.

*\* In order to sit for a national certification exam as a phlebotomy technician, graduates must have proof of High School diploma or G.E.D.*

**Technical Standards**

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/plb](http://www.hagerstowncc.edu/academics/divisions/health-science/plb).

## WHAT DOES A RADIOGRAPHER DO?

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Radiographers use sophisticated x-ray equipment to image the structures of the body, as prescribed by the physician, to diagnose injury or disease. Their responsibilities require a knowledge of anatomy, physiology and pathology, patient positioning, radiographic technique, radiation safety, patient care and communication. Radiographers use critical-thinking to accommodate a variety of patient needs and imaging scenarios. More information is available at [www.asrt.org](http://www.asrt.org).

## WHERE DO RADIOLOGISTS WORK?

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Radiographers work primarily in hospitals but other employment opportunities include clinics, physician's offices, freestanding imaging centers, manufacturing plants, research centers, outpatient surgical centers, mobile imaging centers, veterinary offices and hospitals, and teleradiology services.

## WHAT IS THE EMPLOYMENT OUTLOOK FOR THIS CAREER?

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The employment of radiographers is expected to increase by about 17 percent from 2008 to 2018, faster than average for all occupations. Radiographers with knowledge of more than one diagnostic imaging modality, such as computed tomography (CT), magnetic resonance imaging (MR) and mammography, will have the best employment opportunities (source: Bureau of Labor Statistics).

## WHAT IS THE ESTIMATED SALARY FOR A RADIOGRAPHER?

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Earnings vary depending on experience, education and skill level. According to the Bureau of Labor Statistics, the median annual wage for radiographers was \$52,210 in 2008.

## WHY SHOULD I CHOOSE HCC?

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- HCC's radiography program is nationally accredited by the Joint Review Committee on Education in Radiologic Technology
- Excellent pass rate on the American Registry of Radiologic Technologists (ARRT National certification examination in radiography)
- HCC offers the ability to complete advance certifications in computed tomography (CT) imaging, magnetic resonance imaging (MRI) imaging, and mammography (M)
- Imaging and simulation labs are well-equipped and feature the PACS (Picture Archiving and Communication System) system. The PACS system allows for the digital communication and storage of medical images
- Clinical education is completed in state-of-the-art healthcare facilities offering a wide range of imaging services

## HOW DO I GET MORE INFORMATION?

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Contact:  
Coordinator, Medical Imaging Programs  
301-790-2800, ext. 205

## A.A.S. Degree

# Radiography

<b>General Education Requirements</b>	<b>20 Credits</b>
<b>Arts/Humanities</b>	
Select Arts/Humanities course from approved General Education course list .....	3
<b>Behavioral/Social Sciences</b>	
PSY 201 General Psychology .....	3
<b>Biological/Physical Science</b>	
BIO 103 Human Anatomy and Physiology I .....	4
BIO 104 Human Anatomy and Physiology II .....	4
<b>English</b>	
ENG 101 English Composition .....	3
<b>Mathematics</b>	
MAT 101 College Algebra .....	3
<b><u>Radiography Course Sequence</u></b>	
<b>Program Requirements</b>	<b>50 credits</b>
<b>First Year – Summer Semester I</b>	
RAD 101 Radiography I .....	3
RAD 103 Radiographic Positioning I .....	3
<b>First Year – Fall Semester I</b>	
RAD 102 Radiography II .....	3
RAD 104 Radiographic Positioning II .....	3
RAD 106 Clinical Technique I .....	3
RAD 110 Venipuncture for Radiographers .....	1
<b>First Year – Spring Semester I</b>	
RAD 105 Radiographic Positioning III .....	3
RAD 108 Clinical Technique II .....	3
PHY 106 Radiological Physics Theory .....	3
<b>Second Year – Summer Semester II</b>	
RAD 200 Clinical Practicum .....	3
RAD 212 Cross-Sectional Anatomy .....	3
<b>Second Year – Fall Semester II</b>	
RAD 201 Medical Imaging I .....	3
RAD 205 Clinical Technique III .....	3
RAD 218 Principles of CT Imaging .....	4
<b>Second Year – Spring Semester II</b>	
RAD 202 Medical Imaging II .....	3
RAD 211 Clinical Technique IV .....	3
BIO 202 Radiation Biology .....	3
<b>Degree Requirement</b> .....	<b>70</b>

See additional admission and program requirements on page 24

## Admission Requirements

Program Application Deadline: October 1 for Summer

Information on admission requirements can be found online at [www.hagerstowncc.edu/academics/programs/radiography](http://www.hagerstowncc.edu/academics/programs/radiography).

## Program Requirements

Students practice selected procedures on each other in the college laboratory. All radiography students must:

1. Receive a minimum grade of 75 percent (C grade) in each radiography course.
2. Meet program competency requirements for both the simulation laboratory and clinical experiences.

Students who receive a final mark of unsatisfactory in the clinical laboratory or clinical experience, despite a passing theory grade, will not be permitted to progress in the radiography program and will receive a final grade of "F" for the course.

Students who do not meet program, course, technical, health, and radiation standards that result in termination from the radiography program by the Vice-President of Academic Affairs, are not eligible for readmission. This includes students who cannot meet safety standards, and students who violate the college's Honor Code and Standards of Conduct, the radiography program Standards of Conduct, and the American Registry of Radiologic Technologists Standards of Ethics.

## Additional Information

Additional information on program requirements including selection criteria, final acceptance, criminal background checks, drug screening, clinical site placement, clinical education, readmission to the radiography program, and transferring from another college or Radiography program can be found at [www.hagerstowncc.edu/academics/programs/radiography](http://www.hagerstowncc.edu/academics/programs/radiography).

## Ionizing Radiation and Pregnancy

Reporting of pregnancy to program officials is voluntary on the part of the student. Regulatory Guide 8.13, Instruction Concerning Prenatal Radiation Exposure, ([www.nrc.gov](http://www.nrc.gov)) published by the United States Regulatory Commission provides information and guidelines.

## Technical Standards

There are technical standards and skill requirements which students are expected to possess and demonstrate in order to be successful in this program. More information on these standards can be found at [www.hagerstowncc.edu/academics/divisions/health-science/rad](http://www.hagerstowncc.edu/academics/divisions/health-science/rad).

## Program Hours of Operation

Classroom, laboratory, and clinical education assignments are completed on a semester basis and will include day, evening, and weekend schedules between the hours of 6 a.m. to 9 p.m.



11400 Robinwood Drive  
Hagerstown, MD 21742  
301-790-2800  
[www.hagerstowncc.edu](http://www.hagerstowncc.edu)

*Stay close. Go far.*