

# MEDICAL IMAGING

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Sylvania Campus  
Health Technology Building (HT), Room 306  
971-722-4227, 971-722-4795

[www.pcc.edu/programs/radiography](http://www.pcc.edu/programs/radiography)

## CAREER AND PROGRAM DESCRIPTION

### Radiography Program

Radiographers are important members of the health care team and work closely with physicians and particularly with radiologists. The radiographer is primarily concerned with providing diagnostic radiographic images (x-rays) of disease and injury and assisting in patient care. The radiographer may be employed in hospitals, clinics and medical offices.

Radiography graduates may apply to take the national certification examination offered by the American Registry of Radiologic Technologists (ARRT) and for licensure as a radiographer in the state of Oregon. Students are required to satisfactorily complete the course of study with a C or better in each required course and must maintain an overall grade point average of 2.0 for graduation.

PCC's program begins each June with an introductory course. The Radiography Program is nine terms in length (27 consecutive months). The program combines campus instruction with clinical education at affiliated hospitals in the Portland area. This program is designed to prepare the student for certification as a Registered Technologist in Radiography, R.T. (R).

### CT Technologist Training Program

CT Technologists are important members of the health care team and work closely with Radiologists to produce diagnostic CT images. Computed Tomography requires additional training beyond the primary certification earned in Radiography. Nuclear Medicine Technologists who will perform PET/CT may enroll in this program, which meets the State of Oregon requirements for CT Training.

The CT Technologist Training Program is four terms in length (12 consecutive months). The program combines campus instruction with clinical education at affiliated hospitals. Students are required to satisfactorily complete the course of study with a C or better in each didactic course and a B or better in the clinical courses. Upon completion of this program, students will be qualified to sit for the national CT certification examination offered by the American Registry of Radiologic Technologists (ARRT).

Special admission required for registration. Applicants must be registry eligible or currently registered, in good standing, in Radiography or Nuclear Medicine to apply to the program. Acceptance into the program is based on clinical seat availability which varies from year to year.

### MRI Technologist Training Program:

MRI Technologist are important members of the health care team and work closely with Radiologists to produce diagnostic MR images. Magnetic Resonance Imaging requires additional training beyond the primary certification earned in Radiography, Nuclear Medicine, Ultrasound or Radiation Therapy. Upon completion of this program, students will be qualified to sit for the national MRI Certification examination offered by the American Registry of Radiologic Technologists (ARRT). Students are required to satisfactorily complete the course of study with a C or better in each required course.

The MRI Technologist Training Program is three terms in length (9 consecutive months). The program combines campus instruction with clinical education at affiliated hospitals. Applicants must be a Registered Radiologic Technologist ARRT(R), Registered Nuclear Medicine Technologist ARRT(N) or (CNMT), Registered Radiation Therapy Technologist ARRT(T) or Registered Medical Sonographer (RDMS) in good standing with one-year experience preferred. Technologists with less than one year experience may be admitted with Director permission. Refer to College catalog for program curriculum

Applications for admission are accepted March 1st through the 2nd Friday in April, by 5:00 p.m. Applications can be mailed to the Health Admissions Office in HT 205, phone 971-722-4908.

### Medical Imaging Continuing Education Courses

College credit courses are available to A.R.R.T certified technologists for updating and re-entry knowledge and skills. See the Medical Imaging website for specific offerings each term. Special admission required for registration. Contact the Medical Imaging department for information at 971-722-4227.

## DEGREES AND CERTIFICATES OFFERED

### Associate of Applied Science Degree

Radiography

### Less than One-Year Certificate

Computed Tomography

Magnetic Resonance Imaging

## PREREQUISITES AND REQUIREMENTS

### Radiography Program:

All program applicants must have a high school diploma or a GED certificate. In addition, all applicants will be required to have satisfactorily (C grade minimum) completed WR 121, MTH 111B or MTH 111C, BI 231, 232 and 233, MP 111 or the equivalent. Pass/No Pass grade is not acceptable in prerequisites. The Radiography Program does not require a computer science prerequisite; however, success in a Radiography Program requires that students be computer literate, including, at least, word processing, use of spreadsheets and web searches. Students with no computer experience should discuss with an advisor ways to achieve competency prior to entering the Radiography Program. BI 231, BI 232, BI 233 and MTH 111 must be current within seven years of application. All prerequisites must be completed by end of winter term in the year in which you apply.

Potential applicants are encouraged but not required to gain health care experience by volunteering or working in the health care industry, preferably in a hospital setting to gain knowledge of professional duties and responsibilities.

The Radiography Program is a limited entry program with restricted enrollment. Completing admission requirements and applying to the program does not guarantee admission.

For specific application procedures contact the Health Admissions Office. Applications are accepted February 1 through the first Monday in April. During April and May the top applicants will be assigned to clinical affiliates for observation and interviews with clinical instructors. Selection will occur in late May. A brief orientation meeting will be held in late June. All students must be formally admitted in order to enroll in the radiography courses. Other enrollees must have program permission.

Once accepted to the program, students will be required to submit to a criminal background check and a drug screen for their clinical practicum. Students must be able to provide a valid Social Security number for the criminal background check. Proof of immunizations will also be required. For a complete listing of required immunizations, please visit our website at [www.pcc.edu/rad](http://www.pcc.edu/rad).

During the course of the program students will be working with ionizing radiation, processing chemicals and they will provide patient care to individuals who may have contagious diseases. Special immunization is required.

### CT Technologist Training Program

Applicants must be registry eligible or currently registered, in good standing, in Radiography ARRT(R) or Nuclear Medicine ARRT(N) or (CNMT) to apply to the program.

The CT Technologist Training Program is a limited entry program with restricted enrollment. Completing admission requirements and applying to the program does not guarantee admission. Applications for admission are accepted August 1st through the 2nd Friday in September, by 5:00 p.m. Applications can be mailed to the Health Admissions Office in HT 205, phone 971-722-4908. All students must be formally admitted in order to enroll in the Computed Tomography courses. Other enrollees must have program permission.

Once accepted to the program, students will be required to submit to a criminal background check and a drug screen for their clinical practicum. Students must be able to provide a valid Social Security Number for the criminal background check. Proof of immunizations may also be required. For a complete list of required immunizations, please visit the Medical Imaging website.

### MRI Technologist Training Program

Applicants must be a Registered Radiologic Technologist ARRT(R), Registered Nuclear Medicine Technologist ARRT(N) or (CNMT), Registered Radiation Therapy Technologist ARRT(T) or Registered Medical Sonographer (RDMS) in good standing with one-year experience preferred. Technologists with less than one year experience may be admitted with Director permission.

The MRI Technologist training program is a limited entry program with restricted enrollment. Completing admission requirements and applying to the program does not guarantee admission. Applications for admission are accepted March 1st through the 2nd Friday in April, by 5:00 p.m. Applications can be mailed to the Health Admissions Office in HT 205, phone 971-722-4908.

Once accepted to the program, students will be required to submit to a criminal background check and a drug screen for their clinical practicum. Students must be able to provide a valid Social Security Number for the criminal background check. Proof of immunizations may also be required. For a complete list of required immunizations, please visit the Medical Imaging website.

## RADIOGRAPHY AAS DEGREE

Minimum 119 credits. Students must also meet Associate Degree Comprehensive Requirements and Associate of Applied Science Requirements. Students must complete a total of sixteen credits of General Education. Students should consult with program advisors for course planning.

### Radiography Degree Credit Summary

RAD	102
General Education	16
HE	1
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	Credit Total 119

## COURSE OF STUDY

The coursework listed below is required. The following is an example of a term-by-term breakdown.

### Summer Term

RAD	100	Introduction to Radiology	2
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### First Term

RAD	101	Radiographic Positioning I	3
RAD	105	Methods of Patient Care	3
RAD	106	Radiographic Equipment I	4
RAD	110	Radiographic Clinic I	4
HE	110	CPR/AED for the Professional Rescuer	1

### Second Term

RAD	102	Radiographic Positioning II	3
RAD	107	Radiographic Equipment II	4
RAD	115	Principles of Exposure I	3
RAD	120	Radiographic Clinic II	4.5

### Third Term

RAD	103	Radiographic Positioning III	3
RAD	122	Radiation Protection - Biology	3
RAD	130	Radiographic Clinic III	4.5
RAD	132	Radiographic Image Production	3
General Education			4

### Fourth Term

RAD	140	Radiographic Clinic IV	10
General Education			4

### Fifth Term

RAD	203	Applied Radiography Topics	2
RAD	209	Advanced Radiographic Procedures	2
RAD	210	Radiographic Clinic V	6.5
RAD	215	Principles of Exposure II	3
General Education			4

### Sixth Term

RAD	205	Radiographic Positioning V	3
RAD	211	Advanced Imaging Modalities	4
RAD	220	Radiographic Clinic VI	6.5
General Education			4

### Seventh Term

RAD	206	Survey of Medical Imaging Diseases	3
RAD	230	Radiographic Clinic VII	9

### Eighth Term

RAD	240	Radiographic Clinic VIII	7
RAD	216	Radiography Registry Review	2

## COMPUTED TOMOGRAPHY LESS THAN ONE-YEAR CERTIFICATE

Minimum 17 credits. Students must meet certificate requirements.

### Commuted Tomography Certificate Credit Summary

RAD	17
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	Credit Total 17

## COURSE OF STUDY

The coursework listed below is required. The following is an example of a term-by-term breakdown.

### First Term

RAD	252	Sectional Anatomy-Abdomen/Pelvis	1
RAD	253	Sectional Anatomy-Head/Spine	1

## Second Term

RAD	251	Sectional Anatomy-Neck/Thorax	1
RAD	254	CT Physics, Equipment and Instrumentation	2
RAD	255	CT Protocols, Procedures and Pathology Correlation	2

## Third Term

RAD	270	CT: Clinical Education I	5
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## Fourth Term

RAD	271	CT Clinical Education II	5
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## MAGNETIC RESONANCE IMAGING CERTIFICATE

Minimum 32 credits. Students must meet certificate requirements.

### Magnetic Resonance Imaging Certificate Credit Summary

MRI	32
Credit Total 32	

### COURSE OF STUDY

The coursework listed below is required. The following is an example of a term-by-term breakdown.

#### First Term

MRI	101	MRI Physics I-Principles, Equipment & Safety	2
MRI	111	MRI Cross-Sectional Anatomy I	2
MRI	121	MRI Clinical Education I	6

#### Second Term

MRI	102	MRI Physics II Advanced Principles	2
MRI	112	MRI Cross-Sectional Anatomy II	1
MRI	122	MRI Clinical Education II	8

#### Third Term

MRI	130	MRI Imaging Procedures & Diagnosis	2
MRI	140	MR Registry Review	1
MRI	123	MR Clinical Education III	8

## COURSE DESCRIPTIONS

**MRI 101 MRI Physics I - Principles, Equipment & Safety 2.00** Introduces Magnetic Resonance Imaging theory and application, patient care, MR safety, Imaging procedures, data acquisition and processing and the physical principles of image formation. Department permission is required.

**MRI 102 MRI Physics II - Advanced Principles 2.00** Continues Magnetic Resonance Imaging theory and application, patient care, MR safety, imaging procedures, data acquisition and processing and the physical principles of image formation. Department permission required. Prerequisite: MRI 101.

**MRI 111 MRI Cross-Sectional Anatomy I 2.00** Introduces the normal appearance of anatomical structures of the head, soft tissue neck, spine and lower extremity in normal planes. Enables students to differentiate between normal and abnormal anatomical structures. Primary focus is MR appearance of anatomy but includes correlation with anatomical drawings and CT anatomy. Department permission is required.

**MRI 112 MRI Cross-Sectional Anatomy II 1.00** Introduces the normal appearance of anatomical structures of the upper extremity, chest, abdomen and pelvis in normal planes. Enables students to differentiate between normal and abnormal anatomical structures. Primary focus is MR appearance of anatomy but includes correlation with anatomical drawings and CT anatomy. Department permission required. Prerequisite: MRI 111.

**MRI 121 MRI Clinical Education I 6.00** Provides clinical education experience in an affiliated hospital Magnetic Resonance Imaging Department under the supervision of a Registered MR Technologist and Radiologist. Includes application of equipment manipulation and operation, MR imaging procedures, MR safety, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. The student will learn the necessary skills that are required to function in the clinical area as a MR Technologist and will develop and exhibit proper professional work ethic. Department permission required.

**MRI 122 MRI Clinical Education II 8.00** Provides intermediate clinical education experience in an affiliated hospital Magnetic Resonance Imaging Department under the supervision of a Registered MR Technologist and Radiologist. Includes application of equipment manipulation and operation, MR imaging procedures, MR safety, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessments and attendance. The student will learn the necessary skills that are required to function in the clinical area as a MR Technologist, and will develop and exhibit proper professional work ethic. Department permission required. Prerequisite: MRI 121.

**MRI 123 MRI Clinical Education III 8.00** Provides advanced clinical education experience in an affiliated hospital Magnetic Resonance Imaging Department under the supervision of a Registered MR Technologist and Radiologist. Includes application of equipment manipulation and operation, understanding and application of imaging parameters, MR safety, medicolegal and ethical protocols, record keeping and patient care. Requires clinical competencies, objectives, performance assessments and attendance. The student will learn the necessary skills that required to function independently in the clinical area as a MR Technologist, and will develop and exhibit proper professional work ethic. Department permission is required. Prerequisite: MRI 122.

**MRI 130 MRI Imaging Procedures and Diagnosis 2.00** Correlates and compares the normal appearance of anatomy in all body sections with pathologic findings. Discussion to include comparison of T1 vs. T2 imaging techniques as they correlate to imaging protocols and diagnosis. The pathology section of the course is designed to give the student an in depth consideration of disease processes. Special equipment, fat suppression and coil considerations will be discussed in all sections. The role of contrast agents in diagnosis will be discussed in all sections. Department permission required. Prerequisites: MRI 102, 112, and 122.

**MRI 140 MRI Registry Review 1.00** Provides a comprehensive review of patient care, imaging procedures, data acquisition and processing and physical principles of image formation for magnetic resonance imaging. Department permission required. Prerequisite: MRI 102, MRI 112, and MRI 122.

**RAD 100 Introduction to Radiology 2.00** Introduces the health care team and various aspects of radiological sciences. Includes medical ethics, professional organizations, medicolegal considerations, communication, cultural diversity, basic radiation protection, fundamental technical components, radiological history, health care organizations and medical specialties. Department permission required.

**RAD 101 Radiographic Positioning I 3.00** Introduces basic positioning techniques used in radiography of the respiratory system, abdomen, upper and lower extremities. Lab includes peer positioning, film critique, anatomical identification, pathologies and an energized section using phantoms. Department permission required.

**RAD 102 Radiographic Positioning II 3.00** Basic positioning techniques used in radiography of the digestive system, urinary system and continuation of the upper and lower extremities. Lab includes peer positioning, film critique, anatomical identification, pathologies and an energized section using phantoms. Department permission required. Prerequisite: RAD 101.

**RAD 103 Radiographic Positioning III 3.00** Basic positioning techniques used in radiography of the bony thorax, spinal column and pelvic girdle. Lab includes peer positioning, film critique, anatomical identification, pathologies and an energized section using phantoms. Department permission required. Prerequisite: RAD 102.

**RAD 105 Methods of Patient Care 3.00** Covers general care of patients in radiology department. Emphasizes radiographer's role regarding patient care with cardiac arrest, vital signs, accident victims, bedside procedures, aseptic techniques, contagious disease control, blood borne pathogens, venipuncture, administration of medication and contrast media reactions. Introduces fundamentals of urinary catheterization. Lab provides application of theory. Department permission required.

**RAD 106 Radiographic Equipment I 4.00** Covers fundamental concepts of energy and measurements, atomic structures, molecules, electricity, magnetism, electromagnetism, transformers, and rectifiers. Department permission required.

**RAD 107 Radiographic Equipment II 4.00** Covers generators, timers, x-ray tubes, recording devices, physiology of sight, image intensifiers, television camera/monitors, digital radiography, mobile radiography and fluoroscopic equipment, tomography and teleradiography. Department permission required. Prerequisite: RAD 106.

**RAD 107C Principles of Fluoroscopy 1.00** Covers the state of Oregon fluoroscopy education requirements on operation of the equipment. Designed as an update for physicians or radiographers and to satisfy the Oregon Radiation Protection Services rules for fluoroscopy. Department permission required.

**RAD 110 Radiographic Clinic I 4.00** Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required.

**RAD 115 Principles of Exposure I 3.00** Covers production and control of scattered radiation, stereo radiography, grid technique, filtration, half value layer, magnification, contrast and density principles. Lab includes application of theories using energized equipment and test tools. Department permission required. Prerequisite: RAD 106.

**RAD 120 Radiographic Clinic II 4.50** Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 110.

**RAD 122 Radiation Protection - Biology 3.00** Introduces biological effects of ionizing radiation and application of principles to minimize the risks of man-made radiation. Examines standards and requirements determined by government guidelines. Department permission required. Prerequisite: RAD 106.

**RAD 130 Radiographic Clinic III 4.50** Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 120.

**RAD 132 Radiographic Image Production 3.00** Introduces theory and practical application of film/screen systems, sensitometry, image formation, automatic film processing, subtraction/duplication, computed radiography and quality assurance. Lab includes using test tools with energized equipment. Department permission required. Prerequisite: RAD 115.

**RAD 140 Radiographic Clinic IV 10.00** Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 130.

**RAD 203 Applied Radiography Topics 2.00** Examines legal principles in radiography by looking at a variety of topics related to medical/professional ethics. Discussions will include the code of ethics and bioethical issues in radiography. Also covered will be the attitudes and communication knowledge needed to develop critical thinking skills in patient care. Prerequisite: RAD 140.

**RAD 205 Radiographic Positioning V 3.00** Covers basic positioning of the skull, paranasal sinuses, facial bones, temporal bone, mastoids and mandible. Lab includes peer positioning, film critique, anatomical identification, pathologies and energized imaging with the use of phantoms. Department permission required. Prerequisite: RAD 103.

**RAD 206 Survey of Medical Imaging Diseases 3.00** Covers basic principles and processes of disease, characteristics of neoplasms and systems with related disease as it applies to the radiological science imaging. Department permission required.

**RAD 209 Advanced Radiological Procedures 2.00** Covers contrast media, fluoroscopic exams and special procedures involving the following systems: CNS, biliary, mammary, female reproductive, respiratory, pancreatic and salivary. Also covers techniques and equipment used to catheterize the vascular system, indications for various vascular procedures, contrast agents used for specific procedures and selective vascular anatomy. Department permission required. Prerequisite: RAD 105.

**RAD 210 Radiographic Clinic V 6.50** Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 140.

**RAD 211 Advanced Imaging Modalities 4.00** Builds on information from previous radiation physics courses in the series. Introduces computed tomography, magnetic resonance, nuclear medicine, sonography and radiation therapy. Department permission required. Prerequisite: RAD 107.

**RAD 215 Principles of Exposure II 3.00** Introduces theory and application of inverse square law, distortion, radiographic quality, technique conversion factors, formulation of technique charts, and quality assurance. Lab includes use of energized equipment and test tools. Department permission required. Prerequisite: RAD 132.

**RAD 216 Radiography Registry Review 2.00** Provides review of the major content areas appearing in the national certification examination. Requires class participation, review of radiation protection, equipment operation and maintenance, image production and evaluation, radiographic procedures and patient care. Students must demonstrate an understanding of these subjects by successful completion of unit examinations and at least one mock registry examination.

**RAD 220 Radiographic Clinic VI 6.50** Provides clinical education experience in an affiliated hospital radiology department under the supervision of a registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, record keeping and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 210.

**RAD 230 Radiographic Clinic VII 9.00** Provides clinical education experience in an affiliated hospital radiology department under the supervision of registered radiographer and radiologist. Includes application of equipment manipulation and operation, radiological imaging procedures, radiation protection, medicolegal and ethical protocol, recordkeeping, and patient care. Requires clinical competencies, objectives, performance assessment and attendance. Department permission required. Prerequisite: RAD 220.

**RAD 240 Radiographic Clinic VIII 7.00** Provides clinical education experience in affiliated hospital radiology department under supervision of registered radiographer and radiologist. Includes application of equipment manipulation and operation, imaging radiological procedures, radiation protection and patient care. Requires clinical competencies, completion of clinical objectives, clinical assessments, attendance and terminal clinical competencies in radiological imaging. Department permission required. Prerequisite: RAD 230.

**RAD 251 Sectional Anatomy - Neck/Thorax 1.00** Introduces the normal appearance of anatomical structures in multiple planes. Enables student to differentiate between normal anatomical structures and abnormalities. Designed for graduate technologists or senior radiography students. ARRT certification or department permission required.

**RAD 252 Sectional Anatomy - Abdomen/Pelvis 1.00** Introduces the normal appearance of anatomical structures in normal planes. Enables student to differentiate between normal anatomical structures and abnormalities. Designed for graduate technologists or senior radiography students. ARRT certification or department permission required.

**RAD 253 Sectional Anatomy - Head/Spine 1.00** Introduces the normal appearance of anatomical structures in multiple planes. Enables student to differentiate between normal anatomical structures and abnormalities. Designed for graduate technologists or senior radiography students. ARRT certification or department permission required.

**RAD 254 CT Physics, Equipment and Instrumentation 2.00** Introduces Computed Tomography theory and application, patient care, CT safety, imaging procedures, data acquisition and processing and the physical principles of image formation. Prerequisite: Department permission required.

**RAD 255 CT Procedures, Protocols and Pathology Correlation 2.00** Emphasizes CT Protocol development, comparison of CT parameters, parameter tradeoffs, normal vs abnormal anatomy visualization and contrast media utilization. Prerequisite: Department permission required.

**RAD 270 CT Clinical Education I 5.00** Provides clinical education experience in an affiliated hospital or clinical CT department under the direct supervision of a registered technologist and radiologist. Includes the application of equipment use, manipulation and operation, CT imaging procedures, CT radiation safety and patient care. Requires attendance and clinical competencies, objectives, and performance assessments. Teaches skills that are required to function in the clinical area as a CT technologist, with a professional work ethic. May be repeated one time for credit. Prerequisite: RAD 251, RAD 252, RAD 253, and RAD 254.

**RAD 271 CT Clinical Education II 5.00** Provides intermediate and advanced clinical education experience in an affiliated hospital CT imaging department under the supervision of a credentialed CT technologist and radiologist. Includes application of equipment manipulation and operation, CT imaging procedures, radiation safety, medical and ethical protocols, record keeping and patient care. Requires attendance and completion of clinical competencies, objectives, and performance assessments. Teaches the necessary skills that are required to function in the clinical area as a CT technologist, with a professional work ethic. May be repeated one time for credit. Prerequisite: RAD 270.

**RAD 285 Imaging for Pathology 1.00** Compares the appearance of pathology using various imaging modalities such as CT, MRI, diagnostic radiography, and others. Covers variables of imaging exam selection according to pathology. All classes are designed for graduate technologists and senior medical imaging students. ARRT certification or department permission required.

**RAD 290 Mammography I 4.00** Provides the means for a certified radiographer (A.R.R.T.) to learn the necessary knowledge and skills to become certified as an A.R.R.T. mammographer. This will enable the radiographer to understand the requirements and procedures for the new regulations in mammography.