

COURSE DESCRIPTIONS

The courses, credit hours, term when the instruction occurs and description of the course contents for the Program are identified.

Responsibility: Program Director, Faculty
Standard: Curriculum

200 Introduction to Radiologic Technology

2 credit hours

Begins first term

This course introduces the student to the goals of the Program, the obligations of the student in the Program, an introduction to safety associated with radiation and the hospital environment, the hospital philosophy and organizational structure of the hospital, the Imaging Services department and its goals and an overview of the field of radiologic technology.

210 Medical Ethics

1 credit hour

Begins first term

This course discusses the concepts of professional ethics, ethical behavior, HIPPA, the repercussions of inadequate or negligent care and methods used to reduce liability. The effective methods of communication and interaction with patients and other health care team members are also discussed. This course includes a discussion of the radiographer's major areas of responsibility in the delivery of health care.

220 Principles of Patient Care

2 credit hours

Begins first term

This course introduces the basic concepts of patient care, including body mechanics, patient observation, physical examination, vital signs determination, emergencies and their management, medical-surgical asepsis, management of oxygen systems, intravenous and nasogastric therapy, urinary drainage systems, and standard precautions.

230 Radiographic Procedures I

3 credit hours

Begins first term

This course presents an overview of the human skeleton, thoracic and abdominal structures identified radiographically. It involves the development of positioning skills for these structures for radiographic examinations.

235 Radiographic Procedures II

3 credit hours

Begins second term

A continuation of course 230, Radiographic Procedures presents an overview of skeleton and internal structures identified radiographically. This class involves the development of positioning skills for these structures for radiographic examinations.

240 Radiation Physics I

1 credit hour

Begins first term

This introductory course provides a review of unit conversions and mathematic equations associated with the concepts presented. It discusses a basic history of medical imaging. Covers matter, energy, and the atom. Electrostatics, magnetism, electrodynamics are all presented in relation to x-ray production. Electric circuit of the x-ray machine is introduced as well as the x-ray tube itself. Interactions of x-radiation with matter and the physical properties of radiation are also communicated.

260 Health Physics I

1 credit hour

Begins first term

This course introduces the student to the concepts of radiation, effects of radiation on the human body and the need for protective measures from radiation.

270 Radiographic Exposures I

1 credit hour

Begins second term

This course provides a thorough understanding of the theory of x-ray techniques. This knowledge is correlated with practical application of technique selection based on sound principles and practices.

285-A Radiographic Positioning Lab and Evaluation of Radiographs

0.5 credit hour

Begins first term

This laboratory course is taken in conjunction with Radiographic Procedures I. The course evaluates radiographs for proper radiographic technique, positioning, anatomical visualization, projection identification and proper image receptor size selection. Pathologic considerations of selected radiographs are discussed.

285-B Radiographic Positioning Lab and Evaluation of Radiographs

0.5 credit hour

Begins second term

This laboratory course is taken in conjunction with Radiographic Procedures II. The course evaluates radiographs for proper radiographic technique, positioning,

anatomical visualization, projection identification and proper image receptor size selection. Pathologic considerations of selected radiographs are discussed.

290 Clinical Education I-A

8 credit hours

Begins first term

This course provides clinical application of radiation safety as taught in Health Physics I, radiographic positioning taught in Radiographic Procedures I, patient care as taught in Principles of Patient Care, and radiographic exposure techniques as taught in Radiographic Exposures I. Students schedule themselves for daytime and weekend shifts.

295 Clinical Education I-B

8.5 credit hours

Begins second term

This course provides clinical application of radiographic positioning taught in Radiographic Procedures I and II, patient care as taught in Principles of Patient Care and Advanced Patient Care, radiographic exposure techniques as taught in Radiographic Exposures I and Digital Imaging. Students schedule themselves for daytime and weekend shifts.

320 Advanced Patient Care

1 credit hour

Begins second term

The theory and practice of the basic techniques of venipuncture, phlebotomy, ECGs and pharmacology encountered in the medical imaging field. The administration of contrast media and/or intravenous medication is introduced, and it also covers human diversity.

340 Radiation Physics II

2 credit hours

Begins fourth term

This course presents various aspects of physics, especially electromagnetic and particulate radiation as it pertains to radiology.

350 Imaging Equipment

2 credit hours

Begins fourth term

This course discusses the operation and physics associated with different types of equipment used in diagnostic radiology. Quality Assurance is also discussed with quality assurance testing for radiographic, fluoroscopic and tomographic units being discussed.

360 Health Physics II

2 credit hours

Begins fourth term

Instruction in this course includes the proper methods of monitoring radiation levels and ways to protect against unnecessary radiation. The student learns the federal and state regulations limiting the amount of radiation to the patient, technologist and general public.

365 Pathophysiology

3 credit hours

Begins third term

The course will review human physiology, pathologies and congenital abnormalities of all systems, advanced discussion of image evaluation and application of critical thinking to viewing radiographic images.

369 Radiobiology

2 credit hours

Begins fourth term

This course defines the effects of radiation on the human body from the cellular level to the effects on the entire body. The student learns short term and long term responses of the body to radiation from the developing embryo through adulthood.

370 Digital Imaging

3 credit hours

Begins second term

This course provides basic information about computer components, language and application of computers in a radiology department. The course will also provide information in producing images with filmless radiography systems.

375 Radiographic Exposure II

2 credit hours

Begins third term

This course provides students with knowledge of the factors that govern and influence the production of radiographic images in enabling the student to apply this information to clinical situations.

380 Advanced Imaging Procedures and Sectional Anatomy

3 credit hours

Begins third term

This course provides a brief overview of mammography, nuclear medicine, ultrasound, computed tomography, interventional radiography, cardioangiography, magnetic resonance and bone densitometry. This course will cover sectional anatomy of the body.

390 Clinical Education II-A

13 credit hours

Begins third term

A continuation of Courses 290 and 295 Clinical Education IA and IB. Students,

with increasing autonomy, move towards indirect supervision and are allowed more independence to reinforce skills previously used. The student schedules him or herself for radiography clinical areas and other modalities in the department.

395 Clinical Education II-B

12 credit hours

Begins fourth term

A continuation of Courses 390. Students, with indirect supervision, are allowed more independence to reinforce skills previously used. The student schedules him or herself for radiography clinical areas and other modalities in the department.

399 Review and Presentation

1.5 credit hours

Begins fourth term

This course provides the student with independent investigation into the various aspects of radiology and the opportunity to present information by posters, case studies, and papers. The course also provides students with the opportunity to prepare for the national certification examination.

Signature

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Program Director

Signature

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Director of Imaging Services

| Reviewed: 7/14/11, 2/9/12, 5/16/13, 2/28/2014, 1/30/15, 2/12/16, 4/27/2020, 9/21/21

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