RADIOGRAPHY (RADT)

RADT 30100 - Health Care Systems (4)
This introductory course encompasses a policy and politics angle of health care's three persistent issues - access, cost and quality. The roles of patients, physicians, hospitals, insurers, and pharmaceutical companies will be established. The interaction between the government and these different groups will also be covered. Current national health care policy initiatives and the interests of class members will drive the class. In addition, this course is designed to inform the manager of key metrics that all employees are responsible for in which the manager must report. Topics include Customer Satisfaction, Employee Engagement, Safety, and financial outcomes. The importance of Dashboards and their expanded use for application of metric tracking will be addressed.

RADT 30200 - Health Care Delivery (4)
Health Care Delivery- Introduces a broad overview of the concepts, theories and practices integral to the basic understanding of health care delivery in the United States. Topics focus on the various forms and function of the U.S. health care system including hospital care, health care education and personnel, financing health care, declining reimbursement rates, long term care, mental health, and public health. Various styles of effective leaders and workplace environments will be addressed

RADT 30400 - Strategic Communication (4)
This course provides students with the skills necessary to formally present in health care and other business settings. Appropriate forms of interpersonal communication and an overview of effective media use will be presented. Verbal and nonverbal communication will be explored. Students will have the opportunity to apply these principles in critiquing media and in producing visuals through computer graphics. Students will become versed in effective presentation utilizing speaking and computer aptitude. Students will design and present an effective presentation about a specific subject matter

RADT 30500 - Health Care Law and Ethics (4)
Students Will Examines case law affecting health care administration. Included are subjects such as health care reimbursement, patient access to health care, organization and operation of the health care business. This course analyzes current ethical topics in healthcare delivery in the United States and their future impact on healthcare delivery

RADT 30700 - Global Impact of Radiant Energy and The Environment (5)
Global Impact of Radiant Energy and the Environment-Foundation of Radioactive Energy and uranium mining's impact on energy as a resource. Analysis will focus on nuclear energy and its impact on environmental concerns such a soil, the water table and wind current as a carrier of destructive radiation. Comparisons will be made as a positive resource in comparison to cataclysmic global events that impact civilization.

RADT 31000 - Anatomy and Physiology-Skeletal Anatomy (3)
This course will provide the student with complete understanding of the skeletal system. Bone development will also be covered. Identification of bony anatomy for the upper and lower extremities, thorax, vertebral column, pelvis, and skull will be covered as well as function and articulation.

RADT 31100 - Introduction to Radiography (1)
Introduction to Radiography - This course is an introduction to imaging technology. The content is designed to prepare students for the upcoming educational studies and clinical experiences. Topics include policies and procedures of the program and radiology departments, medical terminology, and introduction to imaging, equipment, radiation protection, safety measures, basic patient care methods, positioning principles, and roles of medical imaging professionals as members of the health care team.

RADT 31200 - Principles of Radiation Protection (3)
This course will acquaint the student with the principles of radiation protection including different sources of ionizing radiation and hazards involving the technologist, patient, and the general public. Proper protective measures will be introduced. Radiation monitoring and survey equipment are also presented.

RADT 31300 - Ethical, Legal, Physical Methods of Patient Care (3)
This course will familiarize the student with basic concepts of Patient and Family Centered Care and techniques used in general patient care as it relates to Radiography. It will emphasize the radiographer's role in multiple clinical settings. It will also acquaint the student with the ethical and legal responsibilities of the radiographer as part of the healthcare team. Consideration for the physical and psychological needs of the patient and family will be reviewed. Routine and emergency patient care procedures are described, as well as infection control procedures using standard precautions.

RADT 31500 - Radiographic Procedures 1 (4)
The student is introduced to positioning principles, terminology, and topographical landmarks. Anatomy, positioning, proper Patient and Family Centered Care, and radiographic examinations of the thorax, abdomen, and contrast studies are covered. Correlation of radiographs with positioning of the anatomical part for optimal diagnostic images, technique selection, patient pathology, and radiation safety are explored.
Corequisite with Clinical Education I.
Corequisite: RADT 31600

RADT 31600 - Clinical Education 1 (3)
Using the competency-based education model, students will be supervised with both direct and indirect supervision. Students will gain experience to become competent entry-level radiographers. Students will become acquainted with radiologic imaging procedures addressed in Procedures appropriate Patient and Family Centered Care methods, radiation safety, technique selection, and equipment operation.
Corequisite with Procedures 1
Corequisite: RADT 31500

RADT 32100 - Principles of Exposure 1 (3)
This course is intended to educate the student in factors that affect radiographic exposures, and the principles and devices involved in technique formation. Basic fundamentals of exposure, concerned with production and recording of the radiograph image, will be presented. Clinical correlation of these principles through laboratory experience will be explored. This course also focuses on the formulation of radiographic techniques based on established principles, formulas and conversions.

RADT 32200 - Radiographic Image Processing (3)
This course is designed to acquaint the student with an understanding of the components and operating principles of image processing, basic maintenance and troubleshooting techniques. Radiographic image artifacts will be identified. Content is designed to impart an understanding of the components, principles and operation of digital imaging systems found in Diagnostic Radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Film based processing will also be addressed.

RADT 32400 - Cross Sectional Anatomy (3)
This course is designed to introduce cross sectional anatomy including identification of vital anatomy and physiology presented through lectures and sample radiography. Radiographic anatomy and pathology of head, thorax, and abdomen/pelvis will be presented.

RADT 32500 - Radiographic Procedures 2 (4)
The student is introduced to positioning principles, terminology and topographical landmarks. Anatomy, positioning, proper Patient and Family Centered Care, and radiographic examinations of the upper and lower extremities are covered. Correlation of radiographs with positioning of the anatomical part for optimal diagnostic images, technique selection, patient pathology, and radiation safety are explored. Corequisite with Clinical Education II.
Corequisite: RADT 32600

RADT 32600 - Clinical Education 2 (3)
Building upon the competency-based education model, students will be supervised with both direct and indirect supervision. Students will continue to become acquainted with radiologic imaging procedures, appropriate Patient and Family Centered Care methods, radiation safety, technique formulation, and equipment operation. Students will complete clinical competencies and objectives taught in Procedures I and II relating to contrast studies and upper extremities.
Corequisite: RADT 32500

RADT 33100 - Principles of Exposure 2 (3)
This course is intended to educate the student in factors that affect radiographic exposures and the principles and devices involved in technique formation. Radiographic quality factors of contrast, brightness, detail, and distortion will be reviewed. Beam restriction and radiographic grids will be introduced. The formulation of radiographic technique will be continued. Clinical correlation of these principles through laboratory experience will be explored.

RADT 33500 - Radiographic Procedures 3 (3)
Didactic and laboratory education continues with emphasis on the bony thorax and the vertebral column. Correlation of radiographs with positioning of the anatomical part for optimal diagnostic images, technique selection, patient pathology, and radiation safety are explored while maintaining Patient and Family Centered Care.
Corequisite: RADT 33600

RADT 33600 - Clinical Education 3 (4)
Building upon the competency-based education model, students will be supervised with both direct and indirect supervision. Students will continue to become acquainted with radiologic imaging procedures, appropriate Patient and Family Centered Care methods, radiation safety, technique formulation, and equipment operation Students will complete clinical competencies and objectives taught in Procedures I, II, and III relating to upper and lower extremity work, pediatric chest and extremity exams, and vertebral column. Clinical trauma shifts and optional modality choices will be introduced. Corequisite with Procedures III.
Corequisite: RADT 33500

RADT 41200 - Radiographic Imaging (2)
This course explores the basic principles of CR, DR, and PACS. The different advanced imaging modalities including Special Procedures (Interventional Radiography-IR), computed tomography, magnetic resonance imaging, nuclear medicine, PET scan, and mammography are presented. Students will explore an area of interest concerning any of the electromagnetic spectrum components through a research paper and oral presentation.

RADT 41300 - Interdisciplinary Roles in Healthcare (4)
Identify various roles of interdisciplinary teams with an emphasis on collaborative relationships with various healthcare providers. The importance of understanding informed decision making in the healthcare setting is explored. The roles and responsibilities of HealthCare Professionals will be defined. (4 Credit Hours) IMT 418- Budget and Financial Stability of Healthcare Organizations An effective overview to the application of overall financial management will be explored. The importance of budgeting daily, monthly and annually will be studied. A workload analysis will be presented in class

RADT 41400 - Radiographic Physics (3)
This course discusses the fundamental concepts of energy and measurements, atomic structure, electricity, and electromagnetism. It will also discuss circuitry panels, transformers, generators, rectifiers, and mathematical considerations of each. Quality assurance for specific equipment will be addressed.

RADT 41500 - Radiographic Procedures 4 (3)
The student continues to study advanced radiographic positioning. Specialized radiographic procedures include cranial and facial studies. Specialty modalities will also be explored. Correlation of radiographs to positioning of the anatomical part for optimal diagnostic images, technique selection, patient pathology, and radiation safety while using Patient and Family Centered Care is explored. Corequisite with Clinical Education IV
Corequisite: RADT 41600

RADT 41600 - Clinical Education 4 (4)
Continuing to build upon the competency-based education model, students will be supervised with both direct and indirect supervision. Students will continue to familiarize themselves with radiologic imaging procedures, appropriate Patient and Family Centered Care methods, radiation safety, technique formulation, and equipment operation Students will complete clinical competencies and objectives taught in all Procedures courses, including cranial work. Students will be allowed to pick an optional rotation of their choice.
Corequisite: RADT 41500

RADT 41800 - Budget and Financial Stability of Healthcare Organizations (4)
An effective overview to the application of overall financial management will be explored. The importance of budgeting daily, monthly and annually will be studied. A workload analysis will be presented in class.

RADT 42000 - Teamwork Collaboration in Healthcare (4)
This course places an emphasis on collaboration with other health professionals as a key strategy in successful healthcare delivery. Exploration of effective team building, conflict management and problem solving will be addressed. The course explores the challenging landscape of the future of healthcare. Different philosophical styles of leadership will be researched.

RADT 42100 - Computer Applications in Radiography (2)
This course gives the student a basic overview of computers in Radiography. It allows for computer review of different programs and previous education components regarding Radiography.

RADT 42200 - Introduction to Quality Assurance (2)
This course is designed to acquaint students with Quality Assurance and Quality Control and the governing agencies and regulations responsible for monitoring performance. Control measures used within a Radiography Department, quality test tools and methods of application are explored. Fixed and variable kVp systems and AEC devices, image-intensified fluoroscopy, recording media and techniques, will all be addressed.

RADT 42300 - Image Presentation and Evaluation (2)
This course is intended to expand the necessary skills to determine a radiograph's acceptability and to learn to correct errors on the image. It is to educate the student to be independently responsible for assessing radiographic images, and then presenting them to the class. This evaluation will be used to improve radiographs for future studies. Case studies will include chest/abdomen, contrast studies, extremity work, spine, bony thorax, and skull work.

RADT 42400 - Radiation Biology (3)
This course deals with the effects of ionizing radiation on living tissue, radiation effects on cells and factors affecting cell response. Factors affecting biological responses are presented, including acute and chronic effects of radiation.

RADT 42500 - Radiographic Procedures 5 (3)
The student studies advanced radiographic positioning including specialized contrast studies, trauma, and additional pediatric work. Many non-routine radiographic views are covered. Specialized radiographic procedures include radiography of the selected anatomical systems: urinary, central nervous, reproductive, and other skeletal anatomy. Specialty modalities will also be explored. Correlation of radiographs to positioning with positioning of the anatomical part for optimal diagnostic images, technique selection, patient pathology, and radiation safety, while using Patient and Family Centered Care is explored.
Corequisite: RADT 42600

RADT 42600 - Clinical Education 5 (4)
Continuing to build upon the competency-based education model, students will be supervised with both direct and indirect supervision, as appropriate. Students will continue to familiarize themselves with radiologic imaging procedures, appropriate Patient and Family Centered Care methods, radiation safety, technique formulation, patient pathology, and equipment operation. Students will complete all clinical competencies and objectives taught in Procedures IV relating to cranial work. Students will be allowed to pick an optional rotation of their choice. Terminal/final competencies assessing the students' progress will also be used as a conclusive evaluation of the students' final clinical skills. Corequisite with Procedures V.
Corequisite: RADT 42500
Attributes: Experiential Learning Gen Ed

RADT 43000 - Strategic Leadership (6)
This course provides the student an opportunity integrate acquired knowledge of previous program courses. The student will be responsible for developing and applying a Capstone project by participating in the practical application of administration and management skills in the workplace setting. The student will be responsible for a project reflective of the required coursework of the entire program. Analysis of different management styles will be researched. Workplace management shadowing will be a component of this course. The Course Instructor must approve the Capstone project outline.

RADT 43800 - Registry Review (0)
This provides a review of the major content areas appearing in the national certification examination. This course requires class participation, review of radiation protection, equipment operation and maintenance, image production and evaluation, radiographic procedures, and patient care. Students will be given multiple content area examinations and mock registry examinations to prepare them for the ARRT exam.