

DCH RADIOGRAPHY PROGRAM CURRICULUM

The program reserves the right to change attendance hours (clinic or class) for the benefit of the student's education. See Section I, page 8, Attendance hours.

Class Schedule

Monday & Wednesday for seniors (2nd year)

Tuesday & Thursday for juniors (1st year)

Clinic Schedule

Monday & Wednesday – all day

Friday morning

Weekend and evening rotations as outlined in Clinical Educational Section II

Tuesday & Thursday – all day

Friday afternoon

Senior and Junior students will be assigned a class and clinic schedule from the above outline as deemed necessary to the benefit of the student's education.

First Quarter

RAD 100	Fundamentals of Radiologic Sciences and Healthcare
RAD 101	Patient Care & Medical Ethics
RAD 102	Medical Terminology & Introduction to Computers
RAD 105	Human Anatomy & Physiology I
RAD 110	Radiographic Procedures
CLN 100	Clinical Education I

Second Quarter

RAD 205	Human Anatomy & Physiology II
RAD 206	Radiation Protection and Radiobiology
RAD 207	Radiologic Physics
RAD 210	Radiographic Procedures II
CLN 200	Clinical Education II

Third Quarter

RAD 305	Human Anatomy & Physiology III
RAD 307	Radiographic Imaging I
RAD 310	Radiographic Procedures III
CLN 300	Clinical Education III

Fourth Quarter

RAD 405	Human Anatomy & Physiology IV
RAD 407	Radiographic Imaging II
RAD 410	Radiographic Procedures IV
CLN 400	Clinical Education IV

Fifth Quarter

RAD 505 Human Anatomy & Physiology V
RAD 507 Special Imaging Systems & Equipment
RAD 510 Radiographic Procedures V
CLN 500 Clinical Education V

Sixth Quarter

RAD 601 Radiographic Pathology
RAD 605 Cross-Sectional Anatomy
RAD 607 Radiographic Quality Assurance & Quality Control
RAD 610 Radiographic Procedures VI
CLN 600 Clinical Education VI

Seventh Quarter

RAD 700 Radiography Seminar I
CLN 700 Clinical Education VII

Eight Quarter

RAD 800 Radiography Seminar II
CLN 800 Clinical Education VIII

**Revised: August 2005
September 2008**

Course Descriptions

First Year

RAD 100 – Fundamentals of Radiologic Science & Healthcare

This course provides an orientation to the Radiography Program and the profession of Radiologic Technology. Initial emphasis is on the student's role as a radiographer in the healthcare delivery system to include student responsibilities, historical development in Radiology, professional organizations, basic radiation protection, key departments and program personnel. Includes a study of anatomical nomenclature related to body planes and directional terms. Cultural diversity as it related to patient care is introduced. Concepts, practices and issues related to death and dying are discussed.

2 clock hours / week

RAD 101 – Patient Care & Medical Ethics

An introduction in assessing and performing patient care to include pediatric and geriatric patients in a Radiology department. Establish techniques that promote professional relations and standards of conduct while working with pediatric and geriatric patients and other medical personnel. Concepts and practices in routine and emergent patient care procedures, proper body mechanics, and pharmacology and drug administration. Instruction in cardiopulmonary resuscitation, oxygen administration and venipuncture is provided.

4 clock hours / week

RAD 102 – Medical Terminology & Introduction to Computers

An introduction to common medical terms utilizing a systematic approach identifying prefixes, suffixes, roots, abbreviations, word construction, dissection and definitions as it relates to medical terminology organization. Specific emphasis is directed toward radiographic procedures, terminology, orders, examination requests, and diagnostic imaging reports. Also, basic computer components, terminology, software and hardware, processing methods and their use in Radiology are emphasized.

3 clock hours / week

RAD 105 – Human Anatomy & Physiology I

This course provides a focused study of basic atomic structure, molecules, cells, tissues, organs and physiologic systems within the human body. The structure and function of the integumentary system, skeletal tissues as well as abdomen and thorax to include pharynx and larynx are covered. The structure and functions of the respiratory system are also covered.

3 clock hours / week

RAD 110 – Radiographic Procedures I

This course will introduce radiographic procedures consisting of positioning, associated terminology, projections, views, motion control, accessory equipment and patient considerations. An introduction to radiographic image analysis, technique applications and evaluation and critique is applied in classroom and laboratory environments. Supervised laboratory in image production, procedures and radiographic anatomy identification of the visceral thorax to include pharynx, larynx and abdomen is required. Course will also discuss age-specific competence. Age-related competencies will be included for all age groups.

4 clock hours / week

CLN 100 – Clinical Education I

This clinical course introduces the operation of the medical imaging department and equipment. Scheduled clinical education rotations begin and the shifting of rotations may begin this quarter. Supervision, instruction, clinical practice, and procedural competency testing is performed as outlined in Section II, clinical education handbook, page 10.

20 clock hours / week

RAD 205 – Human Anatomy & Physiology II

This course provides a detailed study of the osteology and arthrology of the upper extremity, shoulder girdle, lower extremity and pelvic girdle.

3 clock hours / week

RAD 206 – Radiation Protection & Radiobiology

A study of the effects of radiation exposure on biological systems, typical medical exposure levels, methods for measuring and monitoring, types of radiation, and methods for protecting personnel and patients from excessive exposure. Principles of the interactions of ionizing radiation with living systems with respect to molecules, organisms, systems, and influences affecting acute and long-term biological responses are described.

4 clock hours / week

RAD 207 – Radiologic Physics

Concepts of Radiologic science, Radiologic quantities and units, fundamentals of physics, basic atomic structure, electromagnetic radiation, electricity and magnetism, electromagnetism, the x-ray imaging system and the x-ray tube are described. Includes supervised laboratory assignments.

4 clock hours / week

RAD 210 – Radiographic Procedures II

This course provides instruction in Radiologic procedures, radiographic positioning and image analysis of the upper extremity, shoulder girdle and lower extremities. Supervised laboratory and evaluation in image production, procedures, and radiographic anatomy identification is required. Procedural competency testing as outlined in Section II, clinical education handbook, page 10. Course will also discuss age-specific competence. Age-related competencies will be included for all age groups.

4 clock hours / week

CLN 200 – Clinical Education II

This clinical education course provided assignments to all radiographic areas within the Imaging department. Rotations will include diagnostic radiology, dedicated chest room, IVP room, Fluoroscopy, mobile procedures, surgery, outpatient imaging facilities, and the emergency department. Procedural competency testing as outlined in Section II, clinical education handbook, page 10.

20 clock hours / week

RAD 305 – Human Anatomy & Physiology III

This course provides a detailed study of osteology and arthrology of the vertebral column, the five vertebral regions and bony thorax. The course also provides study of the structure and functions of the brain and spinal cord of the CNS as well as the muscular system and peripheral system.

3 clock hours / week

RAD 307 – Radiographic Imaging I

X-ray production, x-ray emission, x-ray interactions with matter, image receptors, processing the latent image and intensifying screens are described.

4 clock hours / week

RAD 310 – Radiographic Procedures III

This course provides instruction in Radiologic procedures, radiographic positioning, film critique, and analysis of the five segments of the vertebral column, the bony thorax and pelvic girdle. Also includes long bone measurement. Supervised laboratory and evaluation in image production, procedures, and radiographic anatomy identification is required. Procedural competency testing is performed as outlined in Section II, clinical education handbook, page 10. Course will also discuss age-specific competence. Age-related competencies will be included for all age groups.

4 clock hours / week

CLN 300 – Clinical Education III

This clinical education course includes rotation assignments through all radiographic imaging areas to include mobile procedures and surgery. Competency testing continues as outlined in Section II, clinical education handbook, page 10.

20 clock hours / week

RAD 405 – Human Anatomy & Physiology IV

This course provides a thorough study of the osteology and arthrology of the skull, facial bones, orbits, paranasal sinuses, mandible, mastoids and temporal bones. Course also provides study of the structure and functions of the cranial nerves, special senses, as well as the endocrine system.

3 clock hours / week

RAD 407 – Radiographic Imaging II

Beam restricting devices, grids, filtration, radiographic quality, radiographic exposure, radiographic technique and automatic exposure control are described. Includes laboratory assignments.

4 clock hours / week

RAD 410 – Radiographic Procedures IV

This course provides instruction in Radiologic procedures, radiographic positioning, film critique, and analysis of the skull, facial bones, orbits, paranasal sinuses, mastoids and temporal bones. Supervised laboratory and evaluation in image production, procedures, and radiographic anatomy identification is required. Continuation of procedural competency, testing and performance as outlined in Section II, Clinical education handbook, page 10. Course will also discuss age-specific competence. Age-related competencies will be included for all age groups.

4 clock hours / week

CLN 400 – Clinical Education IV

This clinical education course includes rotation assignments through all radiographic imaging areas to include mobile procedures and surgery. Shift rotations may continue. Continuation of procedural competency, testing and performance as outlined in Section II, Clinical education handbook, page 10.

20 clock hours / week

Second Year

RAD 505 – Human Anatomy & Physiology V

This course provides a thorough study of the osteology and arthrology and the structure and functions of the digestive, biliary, urinary, and reproductive and salivary glands. Procedural competency testing is performed as outlined in Section II, Clinical education handbook, page 10.

3 clock hours / week

RAD 507 – Special Imaging Systems & Equipment

Electrical hazards and protection, special imaging systems and equipment to include surgery, fluoroscopy, trauma, conventional tomography, computed tomography, mobile and mammographic equipment and digital imaging. Methods of subtraction, duplication, and magnification radiography are described.

4 clock hours / week

RAD 510 – Radiographic Procedures V

This course provides instruction in radiographic procedures, radiographic positioning, film critique, and analysis of the salivary glands, digestive, biliary, urinary, and reproductive systems. Procedural and patient considerations are discussed. Supervised laboratory and evaluation in image production, procedures, and radiographic anatomy identification is required. Continuation of procedural competency, testing and performance as outline in Section II, Clinical Education handbook, page 10. Course will also discuss age-specific competence. Age-related competencies will be included for all age groups.

4 clock hours / week

CLN 500 – Clinical Education V

This clinical education course includes rotation assignments through all radiographic imaging area to include mobile procedures and surgery. Shift rotations may continue. Continuation of procedural competency, testing and performance as outline in Section II, Clinical Education handbook, page 10.
20 clock hours / week

RAD 601 – Radiographic Pathology

The study of common human diseases, their causes, treatment and radiographic appearance. Includes a discussion of diseases demonstrated with various imaging systems. Independent study and research is required.

4 clock hours / week

RAD 605 – Cross-Sectional Anatomy

This course provides a study of human anatomy imaged in various sectional planes. Students will compare planar anatomy to sectional anatomy. Students will identify and recognize anatomical structures as seen in computed tomography (CT) and magnetic resonance imaging (MRI) with plain film correlation.

3 clock hours / week

RAD 607 – Radiographic Quality Assurance & Quality Control

Radiographic Quality Assurance (QA) and Quality Control (QC) procedures are introduced. Includes a discussion on quality management concepts. Imaging artifacts are described. Supervised laboratory sessions on QA & QC processes are required.

4 clock hours / week

RAD 610 – Radiographic Procedures VI

Introduction to special contrast procedures of the nervous system performed in the Radiology department. These contrast procedures include arthrography, tomography, lumbar puncture, venograms, myelography, angiography, and surgery along with trauma and mobile radiography. Procedural and patient considerations are discussed. Supervised laboratory and evaluation in image production, procedures and radiographic anatomy identification is required. Course will also discuss age-specific competence. Age-related competencies will be included for all age groups.

3 clock hours / week

CLN 600 – Clinical Education VI

This clinical education course includes rotation assignments through all radiographic imaging areas to include mobile procedures and surgery. Assignments to specialty areas will continue this quarter. Shift rotations may continue. Competency testing in all categories continues.

20 clock hours / week

RAD 700 – Radiography Seminar I

Comprehensive and intense review of all material covered in the previous six quarters in preparation for the American Registry of Radiologic Technologists (ARRT) certification examination. Independent / group study, research, and testing are required. A grade is assigned for each of the ten examinations and courses. Students must successfully pass a simulated Registry examination to be eligible for graduation.

16 clock hours / week

CLN 700 – Clinical Education VII

This clinical education course includes rotation assignments through all radiographic imaging areas to include mobile procedures, surgery and specialty areas. Shift rotations will continue. Recomps in all categories continues.

20 clock hours / week

RAD 800 – Radiography Seminar II

Final comprehensive and targeted reviews of all material covered in the previous seven quarters in preparation for the American Registry of Radiologic Technologists (ARRT) certification examination. Independent / group study, research, and testing are required. A grade is assigned for each of the eight examinations and courses. Students must successfully pass a simulated Registry examination to be eligible for graduation.

16 clock hours / week

CLN 800 - Clinical Education VIII

This clinical education course includes rotation assignments through all radiographic imaging areas to include mobile procedures and surgery. Elective clinical rotations are available this quarter. These areas include routine radiography, surgery, emergency department, and angiography, CT, MRI, Cardiac Catheterization Lab and Nuclear Medicine.

20 clock hours / week

Clock hours	First Year	=	1529
	Second Year	=	<u>1505</u>
Total Clock Hours			<u>3034</u>

Note: Clock hours are calculated based on approximately 12-week quarter. Exception: the eighth quarter is based on 9-weeks.

The program reserves the right to make changes to the curriculum without notice.