

Rockford Memorial Hospital School of Radiography

Radiology

In 1885, Wilhelm Conrad Roentgen discovered a "new kind of ray" which he called X-rays. Since that time, X-rays have been one of our most valuable medical tools in diagnosing disease, broken bones, suspected tumors and other serious physical conditions difficult to identify and treat without "seeing them."

A CAREER IN RADIOGRAHY

The people who operate radiographic equipment are called radiographers. They are not to be confused with radiologists - physicians who specialize in the interpretation of radiographs.

Most radiographers operate equipment that is used for diagnostic imaging: X-ray machines, fluoroscopes, computed tomography (CT) scanners, and magnetic resonance imaging (MRI), for example.

In addition to the duties of preparing patients and operating equipment, radiographers may have administrative tasks. They may prepare work schedules, evaluate equipment, and often determine optimum radiographic quality. The radiographer must be able to recognize emergency patient care situations and begin life-saving first aid when necessary.

Radiographers generally work a 40-hour week that may include evening, weekend, holiday or on-call hours. Many radiographers also work part-time. Radiography jobs are in hospitals, physicians' offices, clinics and laboratories. While job prospects are expected to be good overall, some areas offer better opportunities than others.

Starting salaries for radiographers average about \$40,000 a year. Experienced radiographers average between \$50,000 and \$55,000 yearly. Technologists with specialized skills in ultrasound, nuclear medicine and radiation therapy earn more.

In the Late 1940's, Rockford Memorial Hospital established a program to educate the students in the field of radiologic technology. The 24 month education offered by Rockford Memorial Hospital's School of Radiography can provide a solid basis for an exciting and rewarding health care career.

The current program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Graduates are eligible to apply for admission to the certification exam administered by the American Registry of Radiologic Technologists (ARRT).

Throughout the program the student spends 40 hours each week in the classroom and clinical settings. The program consists of lectures, demonstrations and supervised experience.

When not in class, the student spends time in the clinical setting, working with staff radiographers and radiologists in the performance of various radiologic procedures. Gradually increasing responsibilities are assigned to students as they gain competence.

The day-to-day schedule of the student varies to include week-end, evening, and night experience. All students are full time. The program involves study and class preparation beyond the 40-hour week.

The program is a stepping stone to various other specializations such as radiation therapy, nuclear medicine and ultrasound, each of which requires at least a year of additional schooling.



CLINICAL EDUCATION

Students participate in different types of imaging by scheduled rotations through the appropriate areas in the radiology department. The students' clinical education may include rotations through some of the following areas: radiation therapy, nuclear medicine, ultrasound, mammography, magnetic resonance imaging, catheterization lab and computerized tomography.

These departments and services are equipped with a variety of imaging equipment which incorporates the newest technology available. The departments are staffed by registered technologists and radiologists who provide the student with excellent educational supervision.

PROGRAM GOALS

- The student will be able to demonstrate the knowledge, skills and values of a radiographer.
- The student will be able to produce quality radiographic images.
- The student will be able to perform appropriate patient care techniques.
- The student will be able to communicate effectively with the patient.
- the student will be able to display professional judgment.
- The student will be able to demonstrate critical thinking and problem solving skills.

MISSION STATEMENT

Rockford Memorial Hospital School of Radiography is dedicated to supplying our students and the communities of interest, with a radiography program designed to provide education in the imaging sciences. This will be accomplished through required didactic and clinical experiences that a Level I Trauma Center can provide. We are further dedicated to graduating radiographers with the knowledge and clinical experiences to succeed in their endeavors to successfully complete the ARRT exam and secure employment.

ADMISSION

A student radiographer must be a mature, dependable person, who is "people-oriented" and genuinely interested in helping the sick and disabled.

The school selects students whose qualifications indicate the greatest potential for professional and personal development. Applications are evaluated on the same basis regardless of age, sex, race, religion, national origin, marital status or handicap. 6 pre-requisite classes must be completed.

ADMISSION POLICY

Any person desiring to enroll in the Rockford Memorial Hospital School of Radiography is required to submit the following to the program director:

- **an application with a \$15 non-refundable fee; make checks payable to Rockford Memorial Hospital**
- **two letters of reference;**
- **copies of College transcript with pre-requisites completed with a 'C' or better.**

Early application is encouraged as the date of receipt may be a determining factor among equally qualified* applicants. Applicants are sent a notice of receipt of application. In January the applicant will receive notification of file status (ie. does file include all necessary items), a notice to sign up to take the aptitude test and an explanation of the aptitude test with sample questions. **There is a \$20 fee for the aptitude test.** After testing is completed, the applicant will be scheduled for an interview. If the student has not met the minimum point value to receive an interview they will be sent a letter of rejection and cancellation of their interview (minimum point value to receive an interview is 30 percentile or above on both the academic aptitude and reading comprehension sections of the aptitude test).

During the interview process, applicants will spend the morning observing the radiology department and will be interviewed at the end of the morning. During the interview, each applicant is asked the same questions and is evaluated by the interviewers. The applicant is encouraged to ask questions.

After interviews have been completed, the class is chosen from the applicants based on the following criteria:

- **GPA in the pre-requisite courses**
- **Aptitude test score**
- **Interview score, and**
- **5 points are given to re-applicants**

Each criterion is assigned a specific point value. In order to be considered for admission the minimum total number of points earned by the applicant is 101. The students with the highest point totals are accepted into the program. **(Up to 10 applicants will be accepted into the program).** The remaining candidates with an acceptable point total are selected as alternates in decreasing point value up to 5 alternate positions (ie. 1st alternate highest number of points). If one of the accepted students decides not to enter the program after they have been notified, but before the start of the program, the alternate will be notified of the available class position. Alternates not accepted, and previous year's applicants are notified the following year at the beginning of the selection process and are informed of the steps to reapply.

Applications are accepted year round. Courses need not be completed to apply but must be completed to be admitted to the program. Processing begins in late December or early January. **The selection process is normally completed by the end of May, with all grades due by May 25th for the class that begins the last Monday in June, yearly.**

Students will be advised of their admission or non-admission status by mail the first week in June.

Admission to the School of Radiography is conditional upon submitting to and satisfactorily passing a criminal background check, a pre-admission physical exam and screening tests.



HOW TO APPLY

Applications for admission to the Rockford Memorial Hospital School of Radiography may be obtained by calling (815) 971-5480 or on the web at www.rockfordhealthsystem.org or by sending a letter addressed to:

Rockford Memorial Hospital
School of Radiography
2400 North Rockton Avenue
Rockford, Illinois 61103

COST

- \$2000 per year for Winnebago, Boone and Ogle county residents.
- \$2500 per year for all other Illinois residents
- \$3000 per year for all out of state residents

Other Costs:

- Books approximately \$900 (for the 2 year program)
- Dorm if required \$150 per month (based on availability)
- Uniforms, shoes approximately \$200-\$350 (student choice)

Financial Aid: Limited part-time employment at the hospital and some scholarships may be available.

Health Insurance: Not available

PROGRAM LENGTH

24 months - Full time (only) consisting of one week of class and one week of clinical and rotates every other week. With exception to the first month which is strictly classroom. The Program is typically days with the exception of one week clinical rotation on 3-11p.m. and one week clinical rotation on 11p.m.-7a.m

ACCREDITATION

The Rockford Memorial Hospital School of Radiography is accredited by:

JRCERT (Joint Review Committee on Education in Radiologic Technology)
20 N. Wacker Drive - Suite 2850
Chicago, Illinois 60606-3182

Phone: (312) 704-5300
Web Site: www.jrcert.org
E-mail: mail@jrcert.org

Rockford Memorial Hospital School of Radiography

The following courses **MUST** be taken at Rock Valley College or an alternate similarly accredited college that has courses that answer the same course description as those listed if you have a question about the college please contact us: **You MAY apply before the courses are completed, provided they are completed with a 'C' or better and grades are received by us BEFORE May 25th prior to the program start date. CLEP courses are accepted and will be given your GPA point total.**

- Biology 185 - Human Anatomy and Physiology
- Health Sciences 102 - Medical Terminology
- English 101 - Composition
- Psychology 170 - General Psychology
- Computers 102 - Introduction to Computers and Information Systems
- Math level 100 or higher

Curriculum

FIRST YEAR/FIRST SEMESTER

- Orientation to Program and Department Policies
- Patient Care
- Fundamentals in Radiologic Science and Health Care
- Introduction to Radiography
- Radiation Protection
- Radiographic Imaging
- Human Diversity
- Medical Ethics and Law
- Radiographic Technique
- Radiographic Anatomy I
- Radiographic Processing
- Radiographic Positioning I
- Film Critique

FIRST YEAR/SECOND SEMESTER

- Radiography Anatomy and Positioning - GI/GU
- Radiographic Anatomy II
- Radiographic Technique II
- Radiographic Positioning II
- Venipuncture/Pharmacology
- Film Critique

SECOND YEAR/FIRST SEMESTER

- Radiographic Technique III
- Special Procedures
- Radiographic Physics
- Related Imaging and Ionizing Modalities I
- Pathology
- Film Critique

SECOND YEAR/SECOND SEMESTER

- Quality Assurance
- Related Imaging and Ionizing Modalities II
- Radiation Biology
- Cross-Sectional Anatomy
- Film Critique
- Registry Review



COURSE DESCRIPTIONS

Orientation to Program and Departmental Policies (5 hours) Review and explanation of all program and departmental policies. Attention is also given to clinical rotations, tuition and dormitory orientation, introduction to departmental personnel and organizational structure.

Patient Care (64 hours) Introduces students to the role of medical/technical specialists in the health care field. Topics include healthcare delivery systems, medical-legal ethics and basic patient care ethics.

Introduction to Radiography (8 hours) Introduces students to the field of Radiology through a brief history of radiography, record keeping and film storage systems. Explanation of accreditation, certification, and licensure are given. Students are provided with information regarding professional organizations, career opportunities, continuing education, organization and management.

Medical Ethics and Law (6 hours) This course is designed to introduce the student to ethical and legal issues in radiologic technology. Particular attention is given to the patient's rights and privileges within the scope of practice in radiologic technology. Legal and ethical considerations pertinent to radiologic technology are discussed.

Radiographic Imaging (6 hours) Introductory course for the beginning radiography student to establish familiarity with radiographic film and film holders.

Radiographic Technique 1 (12 hours) An introductory course for the beginning radiography student to establish basic comprehension of radiographic technique. Attention is given to contrast, density, definition, and technical factors affecting them.

Radiation Protection (18 hours) An introduction to health physics as it affects radiographers and patients. The course will discuss radiation protection rationale and specific methods for protecting patients and operators from unnecessary exposure to ionizing radiation.

Radiographic Processing Technique (18 hours) A comprehensive course including processing room design and function, film processing, silver reclamation, film storage and handling and film artifacts and their causes.

Radiographic Anatomy 1 (40 hours) A comprehensive discussion of the anatomy and physiology of the thorax and abdominal cavities, and the skeletal system including the upper and lower extremities. Emphasis will be placed on identification of anatomy on radiographs.

Radiographic Positioning 1 (60 hours) A comprehensive discussion of the positions necessary for demonstration of the structures of the chest, abdominal cavity and the upper and lower extremities. Emphasis is placed on the practical aspects of positioning. Discussion will include adaptations of routines in abnormal situations. Discussion of critical thinking and problem solving will be included.

Radiography of the Gastro-intestinal, Biliary and Urinary Systems (84 hours) A study of the radiographic examinations performed for demonstration of the gastrointestinal, biliary and urinary systems. The course includes a comprehensive discussion of the anatomy and physiology of the systems and a detailed outline of the fluoroscopic and radiographic procedures.

Radiographic Anatomy 2 (60 hours) A comprehensive discussion of the anatomy of the bones of the thorax, spine and skull. Emphasis will be placed on identification of anatomy on radiographs. Information learned in this unit will enable the students to understand the anatomical relationship necessary for accurate radiographic positioning.

Radiographic Positioning 2 (60 hours) A comprehensive discussion of the positioning

necessary for demonstration of the structures of the bony thorax, spine and skull. Emphasis is placed on the practical aspects of positioning. Discussion will include adaptations of routines in abnormal situations. Discussion of critical thinking and problem solving will be included.

Radiographic Technique 2 (24 hours) A discussion of the basic factors utilized in the formulation of x-ray techniques. Its purpose is to enable the student to use the technique charts effectively and manipulate the exposure factors as the nature of the examination and the patient varies. The student will gain a comprehensive understanding of the appropriate use of radiographic film and intensifying screens.

Related Imaging and Ionizing Modalities 1 (6 hours) A brief discussion of the basic principles of CT, Nuclear Medicine, Radiation Therapy, and Ultrasound. This Course will include comparison of these modalities to routine diagnostic radiography.

Related Imaging and Ionizing Modalities 2 (10 hours) Performance of at least two case studies on patients observed in the special imaging areas of choice.

Radiographic Physics (130 hours) A discussion of the fundamentals theories of physics, relating primarily to the production and properties of ionizing radiation. The student will gain a basic understanding of the units of measurement, the concept of energy, structure of matter generators and motors, production and properties of ionizing radiation, and x-ray tube and circuitry.

Radiographic Technique 3 (30 hours) A comprehensive study in radiographic technique. This unit is intended to give the student detailed knowledge of the relationships between various factors of radiographic quality. Attention will be given to manipulation of exposure and technical factors and prediction of the outcome.

Special Procedures (60 hours) A study of tomography and special examinations using contrast media and sterile techniques. Each procedure is discussed in terms of anatomy, method of examination, contrast media and positioning.

Film Critique (54 hours) Discussion of diagnostic films, including technique, contrast, density, positioning and pathology. May be done as a group or individually.

Radiation Biology (30 hours) A brief discussion of Radiation Biology. Discussion includes the effects of ionizing radiation on cells, tissues, organs and systems of the human body. The student will gain an understanding of the rationale behind radiation protection methods and government regulations.

Pathology (30 hours) A basic study of disease on all its aspects: nature, causes, development and consequences. The disease process will be dealt with according to each of the body systems. Emphasis will be placed on radiographic identification of pathology and its effects on radiographic quality.

Registry Review Sessions (50 hours) Concentrated review of all pertinent information for successful writing of the national registry examination Radiologic Technologists.

Management Seminar (2 hours) A brief discussion of the manager's role, in the function of a radiology department. This seminar will review basic characteristics of a good manager.

Cross-sectional Radiography (20 hours) A self-study exercise in cross-sectional anatomy, with emphasis on its relationship with, cross sectional modalities (ie) Ultrasound, CT, MR.

Quality Assurance (20 hours) This unit will provide the student with an introduction to the evaluation of radiographic systems to assure consistency in the production of quality images. The components involved in the radiography system will be identified. Testing devices and procedures to evaluate these components will be discussed. State and Federal impacts will be described.

Venipuncture and Pharmacology (12 hours) This unit will provide the student with theory and practice of the basic techniques of venipuncture, the administration of contrast media and or IV medication. This unit will provide the student with a basic understanding of drugs, drug classifications, and other areas describing drugs.

REFUNDS

If a student officially withdraws or is dismissed from the school, the student is entitled to a refund according to the schedule below:

- During the first five days of the semester - 75 percent
- Days six to ten of the semester - 50 percent
- Days 11 to 15 of the semester - 25 percent
- After day 16 of the semester - No refund

STUDENT SERVICES

All students are under the same umbrella as Rockford Health System employees which entitles them to the following: food discounts, employee assistance program, employee health, discounts and special offers by the Human Resource Department and on-campus housing.

GUIDANCE

Counseling services are available for students needing them. The staff of the Employee Assistance Program will refer or suggest to the student a suitable counselor in the immediate vicinity of the hospital. Students are responsible for all expenses incurred as a result of the referral. The Employee Assistance Program is available to students with the same guidelines as employees.



STUDENT PREGNANCY POLICY

1. The student has the option of informing school officials of her pregnancy.
2. If the student chooses to voluntarily inform school officials of her pregnancy, it **MUST** be in writing and indicate the expected date of confinement (delivery).
3. In the absence of this voluntary disclosure, a student cannot be considered pregnant.
4. The student must read and sign a copy of Nuclear Regulatory Guide 8.13 and a new film badge form.
5. If a student discloses her pregnancy she has the following options:
 1. Continue the program with no modifications
 2. Continue the program with clinical assignment modifications;
 3. Continue the program with a leave of absence from clinical assignments; or
 4. Leave of absence from the program.
6. Any absences of clinical or didactic education, prior to and post delivery, (in excess of the attendance policy absences) will be the responsibility of the student. The timing of the make up of these absences will be negotiated between the student and program officials.
7. The student must be released by her physician before returning to her clinical education rotations.

VACATIONS AND HOLIDAYS

The student is given six holidays each year and they are as follows: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving, and Christmas. The student is granted one (8 hour) personal day each year. Each student is also scheduled for eight weeks vacation during the 24 month program.

FACULTY

Program Director:

Patricia Griesman, M.S., R.T.

Clinical Instructor:

Bethany Preiss, R.T.

Medical Director:

R. Anthony Murray, M.D.

If you have any further questions or you desire an application, please contact the Program Director at (815)971-5480 or pgriesman@rhsnet.org