

# RADIOGRAPHY

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## ACCREDITATION

The Radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 North Wacker Drive, Suite 2850, Chicago, Illinois 60606-3182; (312) 704-5300; email: mail@jrcert.org; <http://www.jrcert.org>.

## MISSION STATEMENT

The mission of the Radiography program is to prepare qualified radiographers who are compassionate, technically competent, ethical, professional, and who respond to the needs of patients and the needs of the organization.

## ASSOCIATE DEGREE PROGRAM

Radiographers are health-care professionals who operate x-ray equipment to help diagnose and treat various health problems. Radiographers image patients for broken bones, ulcers, tumors, diseases, or malfunctions of various organs through the production of consistently high-quality radiographs ready for a physician's interpretation. In many instances, radiographers and radiologists work as a team to complete complex procedures.

Technological advances in the medical field have increased the demand for entry-level radiographers who will perform tasks that include assisting physicians, caring for the critically ill, and performing x-ray exams for patients in operating rooms, emergency rooms, and radiology departments. This two-year program combines formal classroom education and extensive clinical training. Graduates receive the associate of applied science degree and are eligible to apply to take the national certification examination.

Radiographers who graduated from JRCERT-accredited radiography programs and have professional certification with the ARRT may receive 98 credits toward an associate of applied science degree in Radiography. To receive credit for radiography training, the technologist must gain admission to the program and complete the general education and professional core courses. Technologists receive an associate degree once they complete these 41 credits and provide proof of graduation and ARRT certification. Students seeking associate degrees must complete at least 25 percent of the coursework for their programs of study at Athens Technical College.

## PROGRAM GOALS AND STUDENT LEARNING OUTCOMES

The goals of the associate degree program in Radiography are:

Goal 1: Students will be clinically competent.

Outcomes:

- Students will demonstrate radiation safety and protection.

- Students will pass the ARRT certification examination.
- Students will apply positioning skills.

Goal 2: Students will communicate effectively.

Outcomes:

- Students will use effective oral communication skills.
- Students will practice written communication skills.

Goal 3: Students will use critical thinking and problem solving.

Outcomes:

- Students will be able to make necessary corrections for positioning and technique.
- Students will adapt to new situations and recognize available resources.

Goal 4: Students will demonstrate professionalism.

Outcomes:

- Students will demonstrate professional and ethical behavior.
- Students will present a professional appearance.

## PERFORMANCE STANDARDS

Radiography is a practice discipline with cognitive, sensory, affective, and psychomotor performance requirements. Based on those requirements, this list of performance standards was developed. Each standard has an example of an activity or activities that a potential student will be required to perform while enrolled in the Radiography program. The performance standards are adopted from St. Petersburg College with permission and the approval of the Diagnostic Imaging Advisory Committee.

### • **Performance Standard: Visual**

Visual ability sufficient for observation and assessment necessary in the operation of equipment and care of patients.

*Examples*

- Visualize x-ray collimator centering light and identify its center
- Observe the patient in order to assess the patient's condition and/or needs from a distance of at least 20 feet
- Can see numbers, letters, calibrations, etc., of varying sizes located on equipment utilized by a radiographer

### • **Performance Standard: Hearing**

Auditory abilities sufficient to monitor and assess patient needs and to provide a safe environment

*Examples*

- Hear a patient talk in a normal tone from a distance of 20 feet
- Hear monitor alarm, emergency signals, and cries for help

- **Performance Standard: Tactile**

Tactile ability sufficient for patient assessment and operation of equipment

*Examples*

- Perform palpation, tactile assessment, and manipulation of body parts to insure proper body placement and alignment
- Manipulate dials, buttons, and switches of various sizes

- **Performance Standard: Mental**

Mental ability sufficient for patient assessment and operation of equipment and care of patients

*Examples*

- Be able to visually concentrate and focus attention, thoughts, and efforts on patients and equipment for varying periods of time
- Be able to respond to patients' changing physical conditions

- **Performance Standard: Environmental Requirements**

Physical health sufficient enough to be able to tolerate certain conditions present in the clinical setting

*Examples*

- Be able to tolerate risks or discomforts in the clinical setting that require special safety precautions, additional safety education, and health risk monitoring (i.e., ionizing radiation), working with sharps, chemicals, and infectious disease (students may be required to use protective clothing or gear such as masks, goggles, gloves, and lead aprons)

- **Performance Standard: Communication**

Communication abilities sufficient for interaction with others in verbal and written form

*Examples*

- Effectively communicate to the patient in order to converse, instruct the patient, relieve anxiety, gain their cooperation during procedures, understand the patient when they are communicating symptoms of a medical emergency
- Read the patients medical chart and/or physician's orders
- Legibly write patient history
- Document own actions and patient responses as indicated

- **Professional Standard: Mobility**

Physical abilities sufficient to move from room to room and maneuver in small spaces

*Examples*

- Assist all patients, according to individual needs and abilities, in moving, turning, and transferring from transportation devices to x-ray tables
- Be able to push, pull and lift 50 pounds
- Push a stretcher and/or wheelchair without injury to self, patient, or others
- Push a mobile x-ray machine from one location to another, including turning corners, getting on and off an elevator, and manipulating it in a patient's room over carpeting

- **Professional Standard: Motor Skills**

Gross and fine motor abilities sufficient to provide safe, effective patient care

*Examples*

- Manually move the x-ray tube and position the tube at various angles and heights up to seven feet
- Accurately draw up sterile contrast media and other solutions without contaminating the syringe and/or needles
- Physically be able to administer the emergency care, including performing CPR
- Place cassettes (image receptors) in Bucky trays and properly manipulate all locks
- Be able to stand for periods as long as two hours wearing lead aprons and to walk a distance of five miles during a normal work day

- **Professional Standard: Critical Thinking**

Critical thinking ability sufficient for safe, clinical judgement

*Examples*

- Identify cause-effect relationships in clinical situations
- Evaluate radiographs to ascertain that they contain proper identification and are of diagnostic value
- Select exposure factors and accessory devices for all radiographic procedures with consideration of patient size, age, and extent of disease
- Assess patient's condition and needs from a distance of at least 20 feet
- Initiate proper emergency care protocols, including CPR, based on assessment data

- **Professional Standard: Interpersonal Behavioral and Social Skills**

Interpersonal abilities sufficient to interact with individuals, families, and groups from a variety of social, emotional, cultural, and intellectual backgrounds

### Examples

- Establish rapport with patients, families, and colleagues
- Allow mature, sensitive, and effective relationships with patients and fellow workers (interpersonal skills)
- Tolerate physically taxing workload
- Function effectively under stress
- Adapt to changing environments (flexible schedules, emergency conditions)
- Display compassion, professionalism, empathy, integrity, concern for others, and interest and motivation

### CLINICAL EDUCATION COMPONENT

The Radiography program curriculum includes clinical components to provide students with opportunities to develop their skills. The following information provides information on the clinical educational component:

- Number of clinical sites: 5
- Clinic site locations: Clarke and Walton counties
- Hours: Generally scheduled during the daytime; however, some evening and weekend hours are required.
- Special Requirements of clinic sites:
  - Current CPR certification
  - Immunization records
  - Annual tuberculosis test
  - Hepatitis B vaccinations or a completed declination form
  - Current T-dap vaccination
  - Current physical examination
  - Drug screening
  - Criminal background check

### CAREER OPPORTUNITIES

Graduates qualify for entry-level positions as radiographers in hospitals, medical centers, physicians' offices, and freestanding clinics.

### PROGRAM EXPENSES

The recent reauthorization of the Higher Education Act requires all colleges and universities to notify students and prospective students of all program costs for which they will be responsible. Students will be responsible for the following expenses:

- Quarterly tuition (\$45 per credit hour)
- Quarterly student activity fees (\$16)
- Quarterly registration fee (\$26)
- Quarterly accident insurance fee (\$4)
- Quarterly instructional and technology supply fee (\$35)
- Background check (Approximately \$50 per required check)
- Certification examination (\$200)
- Dosimeters (\$110)
- Drug screening (Approximately \$46 per required screening)
- Immunizations
  - Hepatitis B series (\$265)
  - T-dap (\$50)
  - Tuberculosis test (\$50)

- Malpractice insurance (\$11 per year)
- Physical examination (Approximately \$200)
- Textbooks (Approximately \$2,792 for entire program)
- Uniforms (Approximately \$250)

The expenses are based on costs in effect at the time this catalog was published. Prices are subject to change.

### ADMISSION REQUIREMENTS

The Radiography program utilizes a competitive admission process to select students. Program faculty and the Admissions Office staff designed the process to ensure maximum opportunity for student success in the program. The Radiography program admits students once per year at the beginning of Fall Quarter. Prospective students may gain admission to the college initially as Health Science program students/applicants to Radiography in order to complete any learning support classes and required general education and health core classes.

Applicants must submit all required documentation to the Admissions Office by April 1 to receive consideration in the selection process. Applicants who are on academic probation or are academically dismissed from the college as of the application deadline will not be considered for admission. Applicants not selected for the program may reapply during subsequent admission intake periods. There is no waiting list between intake periods; applicants must complete the application process for each attempt for entry into the Radiography program. Applicants must complete the following steps:

- a. Submit a completed and signed application for admission and a \$20 nonrefundable application fee;
- b. Submit official transcripts showing that applicants earned a minimum grade point average of 2.0 on a 4.0 scale in high school and on all college work attempted (students transferring from other colleges will not be required to submit high school transcripts if they complete a minimum of 30 semester or 45 quarter credit hours of study at one or more colleges);
- c. Submit completed and signed Intent form (blank forms are available in the Admissions Office and online at [www.athenstech.edu](http://www.athenstech.edu)—Select *Prospective Students* and then *Competitive Health Pgms*);
- d. Provide valid SAT test scores that are less than five years old (see *Life Sciences Selective Admissions Examinations*);
- e. Satisfactorily complete college algebra (MAT 1111) and anatomy and physiology I and II (BIO 2113 and BIO 2114) by the April 1 admissions application deadline (applicants transferring from other colleges must confirm the transferability of credit for these courses with the college's director of registration and records by the April 1 application deadline);
- f. Participate in personal interviews with program faculty if invited; and
- g. Attend a mandatory pre-admission orientation session if invited (failure to attend or to make alternate arrangements to obtain necessary information will result in the forfeiture of admission to the program).

Prior to beginning the clinical phase of the program, applicants must:

- a. Satisfactorily complete Introduction to Health Care (AHS 104);
- b. Meet the technical standards of the program (as provided by the Admissions Office);
- c. Accept the policies of the program;
- d. Provide the program chair with completed health and immunization records;
- e. Submit verification of malpractice insurance (see *Malpractice Insurance*);

- f. Submit a signed document acknowledging that commission of a felony before or during their enrollment in this program may prevent graduates from taking the certification exam to become radiographers and that they may be required to complete drug testing and/or background checks at their own expense prior to participating in internships, practicums, or clinical activities at certain host sites for these activities (see *Drug Testing/Background Checks*) (blank documents are available from the program chair or the Admissions Office and online at [www.athenstech.edu](http://www.athenstech.edu)—Select *Prospective Students* and then *Competitive Health Pgms*).

### RADIOGRAPHY CURRICULUM OUTLINE

*Associate of Applied Science Degree Program (Major Code: RT03)*

*Credit Required for Graduation: 139 quarter credit hours*

			<b>Credits</b>
<b>General Education</b>			<b>25</b>
* ENG	1101	Composition and Rhetoric	5
ENG	1102	Literature and Composition	
		OR	5
HUM	1101	Introduction to Humanities	
MAT	1111	College Algebra	5
PSY	1101	Introduction to Psychology	5
SPC	1101	Public Speaking	5
<b>Health Core</b>			<b>16</b>
AHS	104	Introduction to Health Care	3
* BIO	2113	Human Anatomy and Physiology I	5
BIO	2114	Human Anatomy and Physiology II	5
SCT	100	Introduction to Microcomputers	3
<b>Radiography Major</b>			<b>98</b>
* RAD	101	Introduction to Radiography	5
* RAD	107	Principles of Radiographic Exposure I	4
* RAD	108	Radiographic Procedures I	4
* RAD	110	Radiographic Procedures II	4
* RAD	112	Radiographic Procedures III	4
* RAD	116	Principles of Radiographic Exposure II	3
* RAD	117	Radiographic Imaging Equipment	4
* RAD	119	Radiographic Pathology and Medical Terminology	3
* RAD	120	Principles of Radiation Biology and Protection	5
* RAD	123	Radiologic Science	5
* RAD	126	Radiologic Technology Review	4
* RAD	132	Clinical Radiography I	5
* RAD	133	Clinical Radiography II	7
* RAD	134	Clinical Radiography III	7
* RAD	135	Clinical Radiography IV	7
* RAD	136	Clinical Radiography V	7
* RAD	137	Clinical Radiography VI	10
* RAD	138	Clinical Radiography VII	10

*\*Students must pass courses with grades of C or better.*

## ALLIED HEALTH SCIENCE

Department Code: AHS

### AHS 104

#### Introduction to Health Care (2-3-3)

Banner Title: Intro to Health Care

Instructors introduce a grouping of fundamental principles, practices, and issues common to many specializations in the health care profession. In addition to the essential skills, students explore various delivery systems and related issues. Topics include basic life support and cardiopulmonary resuscitation (CPR); basic emergency care, first aid, and triage; vital signs; infection control; and blood and airborne pathogens. Students must pay a \$30 supply fee when registering for this course.

Prerequisite: ENG 097 with a grade of C\* or better and RDG 097 with a grade of C\* or better or placement by diagnostic testing

Offered quarterly

## BIOLOGY

Department Code: BIO

### BIO 2113

#### Human Anatomy and Physiology I

(4-3-5)

Banner Title: Anatomy/Physiology I

This course introduces the anatomy and physiology of the human body. Instructors place emphasis on the development of a systemic perspective of anatomical structures and physiological processes. Topics include body organization, chemistry, cell structure and functions, tissue classifications, the integumentary system, the skeletal system, the muscular system, and the nervous and sensory systems. Laboratory experiences support classroom learning. Students must pay a \$20 supply fee when registering for this course.

Prerequisite: ENG 099 with a grade of C\* or better and RDG 098 with a grade of C\* or better or placement by diagnostic testing

Offered quarterly

### BIO 2114

#### Human Anatomy and Physiology II

(4-3-5)

Banner Title: Anatomy/Physiology II

This course continues the study of the anatomy and physiology of the human body and builds upon the concepts of chemistry, cytology, and histology. Topics include the endocrine system, the cardiovascular system, the blood and lymphatic system, the immune system, the respiratory system, the digestive system, the urinary system, and the reproductive system. Topics also include fluid dynamics and metabolism. Laboratory experiences sup-

port classroom learning. Students must pay a \$20 supply fee when registering for this course.

Prerequisite: BIO 2113 with a grade of C or better

Offered quarterly

## ENGLISH

Department Code: ENG

### ENG 1101

#### Composition and Rhetoric (5-0-5)

Banner Title: Composition and Rhetoric

Students practice various modes of writing ranging from exposition to argumentation and persuasion. The course also explores the analysis of literature and articles about issues in the humanities and in society. The course includes a review of standard grammatical and stylistic usage in proofreading and editing. An introduction to library resources lays the foundation for research. Topics covered in the course include writing analysis and practice, revision, and research. Students write a research paper using library resources and using a formatting and documentation style appropriate to the purpose and audience.

Prerequisites: ENG 099 with a grade of C\* or better and RDG 098 with a grade of C\* or better or placement by diagnostic testing

Offered quarterly

### ENG 1102

#### Literature and Composition (5-0-5)

Banner Title: Literature and Composition

This course emphasizes the ability of students to read literature analytically and meaningfully and to communicate clearly. Students analyze the form and content of literature in historical and philosophical contexts. Topics include reading and analysis of fiction, poetry, and drama; research, and writing about literature.

Prerequisite: ENG 1101 with a grade of C or better

Offered quarterly

## HUMANITIES

Department Code: HUM

### HUM 1101

#### Introduction to Humanities (5-0-5)

Banner Title: Introduction to Humanities

This course explores the philosophic and artistic heritage of humanity expressed through a historical perspective on visual arts, music, and literature. Instructors present the humanities as a source of subjective insights for the understanding of people and society. Topics include histori-

cal and cultural developments and contributions of the humanities. Students will complete a research project as part of this course.

Prerequisite: ENG 1101 with a grade of C or better

Offered Fall, Winter, and Spring terms

## MATHEMATICS

Department Code: MAT

### MAT 1111

#### College Algebra

(5-0-5)

Banner Title: College Algebra

This course emphasizes techniques of problem solving using algebraic concepts. Topics include fundamental concepts of algebra, equations and inequalities, functions and graphs, systems of equations, analytic geometry, and optional topics, including sequences, series, and probability.

Prerequisite: MAT 097 with a grade of C\* or better and/or MAT 099 with a grade of C\* or better or placement by diagnostic testing

Offered Quarterly

## PSYCHOLOGY

Department Code: PSY

### PSY 1101

#### Introduction to Psychology (5-0-5)

Banner Title: Introduction to Psychology

This course emphasizes the basics of psychology. Topics include the science of psychology; social environments; life stages; physiology and behavior; personality; emotions and motives; conflicts, stress, and anxiety; abnormal behavior; and perception, learning, and intelligence.

Prerequisites: ENG 099 with a grade of C\* or better and RDG 098 with a grade of C\* or better or placement by diagnostic testing

Offered quarterly

## RADIOGRAPHY

Department Code: RAD

### RAD 101

#### Introduction to Radiography

(4-2-5)

Banner Title: Intro to Radiography

This course provides students with an overview of radiography and patient care and an orientation to the radiographic profession as a whole. Instructors emphasize patient care with consideration of both physical and psychological conditions. Topics include ethics, medical and legal considerations, the "Right to Know Law", professionalism, basic principles of radia-

tion protection, basic principles of exposure, equipment introduction, health care delivery systems, hospital and departmental organization, and hospital and technical college affiliation. Topics also include body mechanics and transportation, medical emergencies, contrast agents, O.R. and mobile procedures, patient preparation, and death and dying.

*Prerequisite: Program admission, AHS 104*

*Offered Fall term*

### **RAD 107**

#### **Principles of Radiographic Exposure I (3-3-4)**

*Banner Title: Radiographic Exposure I*

This course introduces the factors that govern and influence the production of radiographic images on radiographic film. Laboratory experiences demonstrate applications of theoretical principles and concepts. Instructors emphasize the knowledge and techniques required to process radiographic film. Topics include radiographic density, contrast, recorded detail, and distortion; exposure latitude; film holders and intensifying screens; processing area considerations; chemicals; handling and storing film; characteristics of films utilized in radiographic procedures; automatic processors; artifacts; silver recovery; processing quality assurance concepts; state and federal regulations; and basic principles of digital imaging.

*Prerequisites: RAD 101 with a grade of C or better, RAD 108 with a grade of C or better, RAD 132 with a grade of C or better*

*Offered Winter term*

### **RAD 108**

#### **Radiographic Procedures I (3-3-4)**

*Banner Title: Radiographic Procedures I*

This course introduces the knowledge required to perform radiographic procedures applicable to human anatomy. Instructors emphasize the production of quality radiographs, and laboratory experience demonstrates the application of theoretical principles and concepts. Topics include radiographic procedures; positioning terminology; positioning considerations; and procedures, anatomy, and topographical anatomy related to body cavities and extremities.

*Prerequisite: Program admission*

*Offered Fall term*

### **RAD 110**

#### **Radiographic Procedures II (3-3-4)**

*Banner Title: Radiographic Procedures II*

*II*

Students continue to develop the knowledge required to perform radiographic

procedures applicable to human anatomy. Topics include positioning terminology; positioning considerations; and procedures, anatomy, and topographical anatomy related to the spine, bony thorax, gastrointestinal (GI) procedures, genitourinary (GU) procedures, and the biliary system.

*Prerequisites: RAD 101 with a grade of C or better, RAD 108 with a grade of C or better, RAD 132 with a grade of C or better*

*Offered Winter term*

### **RAD 112**

#### **Radiographic Procedures III(3-3-4)**

*Banner Title: Radiographic Procedures III*

This course continues the development of the knowledge and skills required prior to the execution of radiographic procedures in the clinical setting. Topics include anatomy and routine projections of the cranium and facial bones; sectional anatomy of the head, thorax and abdomen; minor special procedures, and sterile techniques.

*Prerequisites: RAD 107 with a grade of C or better, RAD 110 with a grade of C or better, RAD 133 with a grade of C or better*

*Offered Spring term*

### **RAD 116**

#### **Principles of Radiographic Exposure II (3-0-3)**

*Banner Title: Radiographic Exposure II*

This course continues to develop students' knowledge of factors that govern and influence the production of radiographic images on radiographic film and digital image acquisition. Topics include beam limiting devices, beam filtration, scattered/secondary radiation, control of remnant beam, technique formation, and exposure calculations.

*Prerequisites: RAD 107 with a grade of C or better, RAD 110 with a grade of C or better, RAD 133 with a grade of C or better*

*Offered Spring term*

### **RAD 117**

#### **Radiographic Imaging Equipment (3-3-4)**

*Banner Title: Radiographic Imaging Equipment*

*Equipment*

This course provides knowledge of equipment routinely utilized to produce diagnostic images. Discussions focus on various recording media and techniques. Topics include radiographic equipment, image intensified fluoroscopy, recording media and techniques, image noise, other imaging equipment such as CT and MRI, computer literacy, digital imaging/PACS,

monitoring and maintenance, and state and federal regulations.

*Prerequisites: RAD 120 with a grade of C or better, RAD 123 with a grade of C or better, RAD 137 with a grade of C or better*

*Offered Spring term*

### **RAD 119**

#### **Radiographic Pathology and Medical Terminology (3-0-3)**

*Banner Title: Radiographic Pathology*

This course introduces the concepts of disease and pathology as they relate to various radiographic procedures. Topics include pathology fundamentals, trauma and physical injury, system classification of disease, and medical terminology.

*Prerequisites: RAD 112 with a grade of C or better, RAD 116 with a grade of C or better, RAD 134 with a grade of C or better*

*Offered Summer term*

### **RAD 120**

#### **Principles of Radiation Biology and Protection (5-0-5)**

*Banner Title: Radiation Biology/Protection*

This course provides instruction on the principles of cell radiation interaction, radiation effects on cells, and factors affecting cell response. Instructors also cover the acute and chronic effects of radiation. Topics include radiation detection and measurement; patient protection; personnel protection; absorbed dose equivalencies; agencies and regulations; introduction to radiation biology; cell anatomy; radiation/cell interaction; and effects of radiation.

*Prerequisites: RAD 123 with a grade of C or better, RAD 136 with a grade of C or better*

*Offered Winter term*

### **RAD 123**

#### **Radiologic Science (5-0-5)**

*Banner Title: Radiologic Science*

Radiologic Science introduces the concepts of basic physics and emphasizes the basics of x-ray generating equipment. Topics include atomic structure, structure of matter, magnetism and electromagnetism, electrodynamics, control of high voltage, rectification, x-ray tubes, x-ray circuits, and production and characteristics of radiation.

*Prerequisites: RAD 116 with a grade of C or better, RAD 119 with a grade of C or better, RAD 135 with a grade of C or better*

*Offered Fall term*

**RAD 126**  
**Radiologic Technology**  
**Review (4-0-4)**  
*Banner Title: Radiologic Technology Review*

This course provides a review of basic knowledge from previous courses and helps students prepare for the national certification examination for radiographers. Topics include image production and evaluation, radiographic procedures, anatomy, physiology, pathology, terminology, equipment operation and quality control, radiation protection, and patient care/education.

*Prerequisites: RAD 120 with a grade of C or better, RAD 137 with a grade of C or better, or permission of the department*

*Offered Spring term*

**RAD 132**  
**Clinical Radiography I (0-14-5)**  
*Banner Title: Clinical Radiography I*

This course introduces students to the hospital clinical setting and provides an opportunity to participate in or observe radiographic procedures. Topics include orientation to hospital areas and procedures; orientation to mobile/surgery; orientation to radiography and fluoroscopy; and participation in and/or observation of procedures related to body cavities, the shoulder girdle, extremities, and bony thorax. Student activities are under direct supervision.

*Prerequisite: Program admission*  
*Offered Fall term*

**RAD 133**  
**Clinical Radiography II (0-21-7)**  
*Banner Title: Clinical Radiography II*

This course provides students with continued hospital setting work experience. Topics include equipment utilization; exposure techniques; participation in and/or observation of routine projections of the extremities, pelvic girdle, spine, and bony thorax; and participation and/or observation of procedures related to gastrointestinal (GI), genitourinary (GU), and biliary systems. Students execute radiographic procedures under direct and indirect supervision.

*Prerequisites: RAD 101 with a grade of C or better, RAD 108 with a grade of C or better, RAD 132 with a grade of C or better*

*Offered Winter term*

**RAD 134**  
**Clinical Radiography III (0-21-7)**  
*Banner Title: Clinical Radiography III*

This clinical course provides students with continued hospital setting work experience. Students improve skills in execut-

ing procedures introduced in radiographic procedures courses and practiced in previous clinicals. Topics include equipment utilization; exposure techniques; participation in and/or observation of gastrointestinal (GI), genitourinary (GU), and biliary system procedures; and participation in and/or observation of cranial and facial radiography. Students execute radiographic procedures under direct and indirect supervision.

*Prerequisites: RAD 107 with a grade of C or better, RAD 110 with a grade of C or better, RAD 133 with a grade of C or better*

*Offered Spring term*

**RAD 135**  
**Clinical Radiography IV (0-21-7)**  
*Banner Title: Clinical Radiography IV*

This course provides students with continued hospital setting work experience. Students continue to develop proficiency in executing procedures introduced in radiographic procedures courses. Topics include sterile techniques, participation in and/or observation of minor special procedures, special equipment use, genitourinary system procedures, and participation in and/or observation of cranial and facial radiography. Students execute radiographic procedures under direct and indirect supervision.

*Prerequisites: RAD 112 with a grade of C or better, RAD 116 with a grade of C or better, RAD 134 with a grade of C or better*

*Offered Summer term*

**RAD 136**  
**Clinical Radiography V (0-21-7)**  
*Banner Title: Clinical Radiography V*

This course provides students with continued hospital setting work experience. Students demonstrate increased proficiency levels in skills introduced in radiographic procedures courses and practiced in previous clinical radiography courses. Topics include advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional, minor special, and special genitourinary system procedures; participation in and/or observation of special equipment use; patient care; and behavioral and social competency. Students execute radiographic procedures under direct and indirect supervision at clinical facilities.

*Prerequisites: RAD 119 with a grade of C or better, RAD 135 with a grade of C or better*

*Offered Fall term*

**RAD 137**  
**Clinical Radiography VI (0-28-10)**  
*Banner Title: Clinical Radiography VI*

This clinical course provides a hospital setting in which students continue to develop proficiency levels in skills introduced in radiographic procedures courses and practiced in previous clinical radiography courses. Topics include patient care, behavioral and social competency, equipment utilization, exposure techniques, and participation in and/or observation of routine and special radiographic procedures. Students execute radiographic procedures under direct and indirect supervision.

*Prerequisites: RAD 123 with a grade of C or better, RAD 136 with a grade of C or better*

*Offered Winter term*

**RAD 138**  
**Clinical Radiography VII (0-28-10)**  
*Banner Title: Clinical Radiography VII*

This course provides a culminating hospital setting work experience that allows students to synthesize information and procedural instruction provided throughout the program. Topics include patient care, behavioral and social competency, equipment utilization, exposure techniques, participation in and/or observation of routine and special radiographic procedures, and completion of all required clinical competencies. Students execute radiographic procedures under direct and indirect supervision.

*Prerequisites: RAD 120 with a grade of C or better, RAD 137 with a grade of C or better*

*Offered Spring term*

## **SCIENCE AND TECHNOLOGY**

*Department Code: SCT*

**SCT 100**  
**Introduction to Microcomputers (1-4-3)**

*Banner Title: Intro to Microcomputers*

This course introduces the fundamental concepts and operations necessary to use microcomputers. Course content emphasizes basic functions and familiarity with computer use. Topics include computer terminology and an introduction to the Windows environment, networking, word processing, spreadsheets, presentation graphics, and databases.

*Prerequisite: Provisional admission*

*Offered quarterly*

## **SPEECH**

*Department Code: SPC*

### **SPC 1101**

#### **Public Speaking (5-0-5)**

*Banner Title: Public Speaking*

This course introduces the fundamentals of oral communication. Topics include selection and organization of materials, preparation and delivery of individual and group presentations, and analysis of ideas presented by others, and professionalism.

*Prerequisites: ENG 099 with a grade of C\* or better and RDG 098 with a grade of C\* or better or placement by diagnostic testing*

*Offered quarterly*