

RADIOLOGIC TECHNOLOGY

Kuhn Hall 304, 417.625.3118

Faculty Schiska

The associate of science degree in radiologic technology combines Core Curriculum courses, a supportive course in the behavioral sciences, natural sciences and special courses in the field of radiology including extensive clinical laboratory experiences. The clinical laboratory experiences are provided through agreements between Missouri Southern and other accredited facilities. The student successfully completing the curriculum is eligible to write the National Registry Examination to become a Registered Technologist.

Completion of the degree requires the completion of Core Curriculum requirements for the Associate of Science Degree, all radiologic technology courses, Bio 221 and Bio 240. Applicants whose backgrounds have not prepared them for Bio 221 must meet these prerequisites before being admitted to the program as well as the prerequisites listed below (see suggested order of study).

Special admissions procedures are required for admittance into this program, in addition to admission to Missouri Southern State University. A special Radiologic Technology application must be turned in to the Director of the Radiology Program before February 1st of the year the student wishes to enter the program. Students may begin the program only at the beginning of the fall semester.

In addition to established fees for all university students, special fees of \$17.50 for the first semester of each year for insurance and \$165 for the

last summer semester are required for enrollment in radiology courses. These fees may change annually.

Students who are already registered technologists may also enter the program.

Radiological course credit will be granted to the Registered Radiologic Technologist, equal to that granted to the graduating associate of science student at the time the Registered Radiologic Technologist starts the program. A minimum of 30 additional academic semester hours are required. This credit must include the general education requirements for the associate of science degree, plus a concentration of courses in one of the subject matter areas of business (accounting and secretarial procedures or business management), behavioral sciences or natural science (concentration in either biology, chemistry or physics).

For additional information visit our website: www.mssu.edu

Associate of Science in Radiologic Technology

	Semester	Hours
Core Requirements		26
Radiology Requirements		52
Rad 101 Introduction to Radiology	3	
Rad 110 Clinical Training I	2	
Rad 111 Medical Terminology	3	
Rad 132 Principles of Radiographic Exposure	3	
Rad 142 Radiographic Pos I	3	
Rad 170 Radiologic Physics	3	
Rad 210 Clinical Training II	2	
Rad 241 Radiographic Pos II	3	
Rad 290 Clinical Training III	2	
Rad 301 Film Critique & Quality Management in Rad.	2	
Rad 320 Radiographic Pos III	3	
Rad 340 Clinical Training IV	3	
Rad 350 Patient Care in Radiology	2	
Rad 360 Clinical Training V	3	
Rad 370 Special Topics in Rad.	2	
Rad 380 Clinical Training VI	2	
Rad 399 Advanced Radiology	3	

Bio 221 Human Anatomy & Physiology II*	5
Bio 240 Radiation Biology*	3

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*See course descriptions for prerequisites.
**Satisfies Core Curriculum Requirement.

SUGGESTED ORDER OF STUDY

Associate of Science Degree

Major Code 5207

Radiologic Technology Major

Prerequisites:

CORE English Comp 101	3
CORE Math 30 (or higher)	3
Bio 121 Human Anatomy/Phys I	4
Rad 111 Medical Terminology****	3
Psy 120 College Orientation	1
	14

Freshman Year

Fall Semester Course	Hours
Bio 221 Human Anatomy & Phys II**	5
Rad 101 Intro to Radiology	3
Rad 110 Clinical Training I	2
Rad 142 Radiographic Pos I	3
Rad 170 Radiologic Physics	3
	16

Spring Semester

CORE Psy 100	3
CORE Kine 101	1
Rad 132 Prin of Radiographic Exp	3
Rad 210 Clinical Training II	2
Rad 241 Radiographic Pos II	3
	12

Summer Semester*

Rad 290 Clinical Training III	2
Rad 301 Film Critique & Quality Mgmt. in Radiology	2
	4

Sophomore Year

Fall Semester	Hours
Rad 320 Radiographic Pos III	3
Rad 340 Clinical Training IV	3
Rad 350 Patient Care in Radiology	2
CORE [Kine 103 Physical Activity]	2
CORE [Lit or Fine Arts]	3
	13

Spring Semester

CORE [Hist 110 or Hist 120]***	3
CORE [Comm. 100 Oral Comm]	3
Bio 240 Radiation Biology	3
Rad 360 Clinical Training V	3
Rad 370 Special Topics in Radiology	2
	14

Summer Semester	
Rad 380 Clinical Training VI	2
Rad 399 Advanced Radiology	3
	5

[Department Recommendations]

*Summer classes meet a minimum of 8 weeks.

**Placement in Bio 221 will depend on pre-entrance Introduction to Human Biology test scores or completion of Bio 121.

***Missouri Constitution Exam or PSc 120 Gov't: U.S., State, Local

****(may be taken during the fall semester of the Freshman year with special permission from the program director)

For additional information contact:

Mr. Alan Schiska, Program Director

Office: Kuhn Hall 304

Phone: 417.625.3118

E-mail: schiska-a@mssu.edu

OR

Dr. Tia Strait

Office: Justice Center 126

Phone: 417.625.9328

E-mail: strait-t@mssu.edu

Course Descriptions

Rad 101 3 hrs. cr.
Introduction to Radiology
 Basic procedures and equipment in the radiology department. Includes organization, function and supervision of a radiology department with a history of radiology, terminology specific to radiology, ethical, patient care and legal aspects of the field and principles of radiation protection. Three hrs. lecture per week. Prerequisite Bio 121.

Rad 110 (F) 2 hrs. cr.
Clinical Training I
 Clinical training with special emphasis in the areas of the thorax, pelvis, extremities and spine radiography. Fifteen hours of clinical training per week.

Rad 111 3 hrs. cr.
Medical Terminology
 The language of medicine, especially as related to radiology, through a comprehensive study of the more common medical roots, prefixes and suffixes. Relates medical roots to everyday English words. A survey of medical and

surgical diseases is included. Three hrs. lecture per week.

Rad 132 3 hrs. cr.
Principles of Radiographic Exposure
 Fundamental principles of technique and technique conversion with particular emphasis on the factors that directly and indirectly affect radiographic exposure. Course also includes discussion of radiation protection and darkroom chemistry. Three hrs. lecture per week.

Rad 142 3 hrs. cr.
Radiographic Positioning I
 Basic radiographic positioning including both standard and specialized positions of the chest, pelvis, extremities and spine. Film critique and radiation protection are included. Two hrs. lecture, 2 hrs. lab per week.

Rad 170 3 hrs. cr.
Radiologic Physics
 The physics of radiology. The physical principles of X-ray production, including theory in electricity, rectification, circuitry and basic equipment maintenance. Three hrs. lecture per week.

Rad 210 (F) 2 hrs. cr.
Clinical Training II
 Intensive clinical training with emphasis in fluoroscopy and various contrast studies. Additional experience and competencies will also be obtained in the areas of general radiography, portables and an introduction to surgical rotations. Fifteen hours of clinical training per week.

Rad 241 3 hrs. cr.
Radiographic Positioning II
 Radiographic procedures related to the digestive, biliary, urinary, mammary and reproductive systems. Special emphasis on the use and preparation of contrast media, patient preparation, and procedures employed, including tomography to visualize organs of interest and pathophysiology of the above systems. Course will include an introduction to myelography and arteriography. Prerequisites – Rad 142 or permission of instructor.

Rad 290 (Su) 2 hrs. cr.
Clinical Training III
 Introductory clinical training in myelography and vascular procedures.

Continued practice and competency in general radiography, surgery and contrast studies. Prerequisites – Rad 110, Rad 210. Twenty-five hours of clinical training per week.

Rad 301 (Su) 2 hrs. cr.
Film Critique and Quality Management in Radiology
 Theory and practice in the art and science of evaluating the technical quality of films. Students will develop critical-thinking and problem-solving skills to correct positioning and technical errors. Includes an introduction to quality assurance and pathophysiology of the skeletal and respiratory system. Prerequisites – Rad 170, Rad 132. Three hours of lecture and two hours of lab per week.

Rad 320 (F) 3 hrs. cr.
Radiographic Positioning III
 An in-depth study of the anatomy and radiographic positioning of the skulls, facial bones and sinuses. Part II of this course will include an introduction to CT, and an overview of sectional anatomy of the brain, spine, neck, chest and abdomen. Prerequisites – Rad 142, Rad 241. 2.5 hours of lecture and one hour of lab per week.

Rad 340 (F) 3 hrs. cr.
Clinical Training IV
 Continued training in special procedures, including myelograms and vascular procedures. Continued clinical proficiency development in general radiography, including contrast studies, surgical, portable, facial and skull radiography. Prerequisites – Rad 110, Rad 210, Rad 290 or permission of instructor. Twenty hours of clinical training per week.

Rad 350 (F) 2 hrs. cr.
Patient Care in Radiology
 A continuation of basic patient care learned to this point in the program. Course content includes emergency protocols, including shock, seizures, diabetic emergencies, strokes and trauma care of the acute patient. Infection control, chest tubes, enteral tubes and vascular access lines, as well as medication administration will be covered. Prerequisites – Rad 101 or permission of instructor. Three hours lecture per week.

Rad 360 (S) Clinical Training V Students will rotate through special procedures with increased responsibility and do an introductory rotation through CT scans. In addition, they will continue to incorporate skills and competencies in basic radiologic procedures. Prerequisites – Rad 110, Rad 210, Rad 290, Rad 340. Twenty hours of clinical training per week.	3 hrs. cr.	ments on MRI and ultrasound. Special emphasis on equipment operation, patient care, contrast preparation, procedural steps and pathophysiology. Two hours lecture per week.	Rad 399 (Su) Advanced Radiology A capstone course designed to prepare students for the national certification examination. Course will include advanced concepts and testing over all major aspects covered by the national certification examination as outlined by the American Registry of Radiologic Technologists. Prerequisites – Rad 101, Rad 170, Rad 132, Rad 142, Rad 241 Six hours lecture per week.	3 hrs. cr.
Rad 370 (S) Special Topics in Radiology In-depth studies in angiography, myelography and CT with introductory seg-	2 hrs. cr.	Rad 380 (Su) Clinical Training VI Clinical training in CT, angiography and an introductory rotation through MRI. Continued work and proficiency in basic radiographic examinations and competencies. Prerequisites – Rad 110, Rad 210, Rad 290, Rad 340, Rad 360. Twenty-five hours clinical training per week.		