

PREPROFESSIONAL

Justice Center 126, 417.625.3155

Associate of Arts Degree

This curriculum allows Missouri Southern students to complete admission requirements for professional schools that accept applicants who have completed approximately 60 hours. Students should incorporate professional school requirements into their schedule and work closely with an adviser at Missouri Southern. Also, students who are completing certification requirements for paramedic programs and desire a college degree may choose the Associate of Arts degree. The Associate of Arts degree facilitates transfer among Missouri public four-year colleges and universities.

For additional information contact:

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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 Core Curriculum requirements for the Associate of Science degree, plus a concentration of courses in one of the subject matter areas of business (accounting or 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 (p. 33)	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 Positioning I.	3
Rad 170 Radiologic Physics	3
Rad 210 Clinical Training II	2
Rad 241 Radiographic Positioning II.	3
Rad 290 Clinical Training III.	2
Rad 301 Film Critique & Quality Management in Radiology.	2
Rad 320 Radiographic Positioning 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

*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/Physiology I	4
Rad 111	Medical Terminology****	3
Psy 120	College Orientation	1
		14

Freshman Year

Fall Semester

Course		Hours
Bio 221	Human Anatomy & Physiology II**	5
Rad 101	Introduction to Radiology	3
Rad 110	Clinical Training I	2
Rad 142	Radiographic Positioning I	3
Rad 170	Radiologic Physics	3
		16

Spring Semester

CORE	Psy 100	3
CORE	Kine 101	1
Rad 132	Prin. of Radiographic Exposure	3
Rad 210	Clinical Training II	2
Rad 241	Radiographic Positioning II	3
		12

Summer Semester*

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

Sophomore Year

Fall Semester

Rad 320	Radiographic Positioning III	3
Rad 340	Clinical Training IV	3
Rad 350	Patient Care in Radiology	2
CORE	[Kine 103 Physical Activity]	2
CORE	[Literature or Fine Arts]	3
		13

Spring Semester

CORE	[Hist 110 or Hist 120]***	3
CORE	[Comm 100 Oral Communication]	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:

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OR

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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 hours 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 hours 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 hours 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 hours lecture, two hours lab per week.

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Rad 170 Radiologic Physics The physics of radiology. The physical principles of X-ray production, including theory in electricity, rectification, circuitry, and basic equipment maintenance. Three hours lecture per week.	3 hrs. cr.	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, students 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.
Rad 210 (F) 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.	2 hrs. cr.	Rad 370 (S) Special Topics in Radiology In-depth studies in angiography, myelography and CT with introductory segments on MRI and ultrasound. Special emphasis on equipment operation, patient care, contrast preparation, procedural steps, and pathophysiology. Two hours lecture per week.	2 hrs. cr.
Rad 241 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.	3 hrs. cr.	Rad 380 (Sum) 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.	2 hrs. cr.
Rad 290 (Sum) 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.	2 hrs. cr.	Rad 399 (Sum) 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 301 (Sum) 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 systems. Prerequisites – Rad 170, Rad 132. Three hours of lecture and two hours of lab per week.	2 hrs. cr.		
Rad 320 (F) 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, one hour of lab per week.	3 hrs. cr.		
Rad 340 (F) 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.	3 hrs. cr.		
Rad 350 (F) 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.	2 hrs. cr.		

RESPIRATORY THERAPY

Justice Center 144, 417.659.4405

Faculty Pippin - Head, Hudson, Erwin, Dunaway

A career in the medical field can be a dynamic and rewarding opportunity. The changing nature of the medical profession is creating a demand for multi-skilled health professionals with communication, interpersonal, and excellent clinical skills such as the respiratory care practitioner. The Respiratory Therapy Programs are designed to prepare students to be employed in the hospital, clinic, laboratory, and alternate care settings such as the patient's home. Respiratory Therapist perform a variety of clinical, diagnostic, and management functions in these settings.

The Respiratory Therapy Department offers these career tracts:

- (1) an Entry-Level Associate of Science degree for applicants entering the field,
- (2) an Upper-Division, Advanced-Level Certificate tract for graduates of an Associate of Science Entry-Level Respiratory Therapy Program and,
- (3) a Baccalaureate Degree in Health Sciences, for graduates of the advanced-level program. See Core Requirements and course descriptions on page 235.