

RADIOLOGIC SCIENCES

Department Information

(251) 445-9346

Department of Radiologic Sciences website
<http://www.southalabama.edu/alliedhealth/radiologicsscience> (<http://www.southalabama.edu/alliedhealth/radiologicsscience/>)

Department of Radiologic Sciences Faculty

Title	Name
Interim Chair	Catherine Cooper
Medical Advisor	Maria S. Figarola M.D.
Instructors	Cleveland, Cooper, Curtis, Jalkh, Manning, Neely, Smith
Teaching Technologists	Davis, Steadham

Programs Offered

Bachelor of Science in Radiologic Sciences

Since its inception in 1976, the Department of Radiologic Sciences has provided a quality educational program with a sustained emphasis upon graduating competent and compassionate healthcare professionals. In so doing, our graduates are prepared to practice their profession in the often complex and global society of the 21st century.

The baccalaureate program is designed to provide graduates with enhanced career opportunities in radiology as administrators, educators, and advanced imaging specialists. The curriculum provides a broad education in liberal arts and basic sciences and an in-depth study in radiologic sciences.

Educational opportunities in diagnostic imaging and advanced imaging modalities such as mammography, magnetic resonance imaging, vascular radiography, computed tomography, radiology administration, ultrasound, and radiation therapy are offered. Following completion of the pre-professional component and admission to the professional component of the program, students will study general radiography for three semesters. At the end of this first year in the professional component, students will select one of the following tracks to complete: general radiography to include one advanced imaging modality, radiology administration, ultrasound, or radiation therapy.

The general radiography track curriculum includes diagnostic radiology and either mammography, computed tomography, magnetic resonance imaging, vascular radiography, and/or radiology administration. Students completing didactic and clinical requirements in these tracks will be eligible to seek certification through the American Registry of Radiologic Technologists (ARRT) in radiography and the advanced modality studied (excluding radiology administration).

The other two baccalaureate tracks allow students completing the first year of general radiography curriculum to select either ultrasound or radiation therapy during their second year. Those who choose one of these tracks will not be eligible to seek ARRT certification in radiography, but will be eligible for ARRT certification in radiation therapy or ARRT and American Registry of Diagnostic Medical Sonographers (ARDMS) certification as an ultrasonographer upon completion of didactic and clinical requirements.

The opportunity to complete the baccalaureate program via an online format is available for students who have completed an Associates' degree radiology technology program and are registered as a certified radiographer with ARRT. These students will complete courses in Radiology Administration and Computed Technology.

Certificates

The certificate program in Radiology Administration would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) to receive didactic instruction and practical experience in radiology administration. This will prepare the student to sit for the certified radiology administrator (CRA) examination given by the Association for Medical Imaging Management (AHRA). This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of thirteen semester hours.

The courses offered will include instruction in human resource management, asset resource management, fiscal management, operations management and communication and information management.

Radiation Therapy

The certificate program in radiation therapy would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) and who has a baccalaureate degree or is seeking a baccalaureate degree to receive didactic instruction and clinical experience in radiation therapy. This will prepare the student to sit for the certification examination given by the ARRT. This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of 44 semester hours. The courses offered will include instruction in patient care, treatment, dosimetry, simulations, and procedures performed by the radiation therapist.

Ultrasound

The certificate program in ultrasonography (US) would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) to receive didactic instruction and clinical experience in US. This will prepare the student to sit for the certification examination given by the American Registry for Diagnostic Medical Sonography (ARDMS). This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of 34 semester hours. The courses offered will include instruction in patient care, image production, and procedures performed by the ultrasound technologist.

Magnetic Resonance Imaging

The certificate program in magnetic resonance imaging (MRI) would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) to receive didactic instruction and clinical experience in MRI. This will prepare the student to sit for the certification examination given by the ARRT. This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of twelve semester hours. The courses offered will include instruction in patient care, image production, and procedures performed by the MRI technologist.

Computed Tomography

The certificate program in computed tomography (CT) would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) to receive didactic instruction

and clinical experience in CT. This will prepare the student to sit for the certification examination given by the ARRT. This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of twelve semester hours. The courses offered will include instruction in patient care, safety, image production, and procedures performed by the CT technologist.

Interventional Radiography

The certificate program in Interventional Radiography (IR) would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) to receive didactic instruction and clinical experience in cardiac and vascular interventional radiography. This will prepare the student to sit for the certification examination given by the ARRT. This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of twelve semester hours. The courses offered will include instruction in patient care, image production, and procedures performed by the interventional and cardiac radiography technologist.

Mammography

The certificate program in mammography would allow a student who is registered as a radiologic technologist with the American Registry of Radiologic Technologist (ARRT) to receive didactic instruction and clinical experience in mammography. This will prepare the student to sit for the certification examination given by the ARRT. This certificate program will be offered as a pre-baccalaureate or a post-baccalaureate option for a student. The program will be three semesters in length and consist of twelve semester hours. The courses offered will include instruction in patient care, image production, and procedures performed by the mammography technologist.

Note: Federal financial aid is not available at this time for these certificate programs for non-degree seeking students.

Pre-professional Component

Degree seeking students must complete the 56-63 semester hour pre-professional component prior to enrolling in professional component courses.

Professional Component

The professional component (Typically, students' junior and senior years) consists of two years of academic and clinical study in Radiologic Sciences. The program is six semesters in length, including two summer terms. All candidates must have satisfied the pre-professional component to qualify for the degree-seeking professional component, but completion of that component does not guarantee admission to the professional component. Enrollment in the professional component is limited by the number of clinical positions available, which is equally true for the advanced modalities. During the professional component, students must be prepared to travel up to 90 miles from campus in order to participate in the clinical education component of the curriculum.

Program Accreditation

The radiography and radiation therapy programs are accredited by:

The Joint Review Committee on Education in Radiologic Technology
20 North Wacker Drive, Suite 2850
Chicago, Illinois, 60706-3182

For more information go to www.jrcert.org (<http://www.jrcert.org>).

Admission Requirements for the Bachelor of Science in Radiologic Sciences Program

1. Completion of all required pre-professional courses by the end of the summer semester prior to desired admission for Fall semester. Students are admitted to the professional component in the Fall semester only.
2. Completion of a Department of Radiologic Sciences application, available at <http://www.southalabama.edu/colleges/alliedhealth/radiologicsscience> (<http://www.southalabama.edu/colleges/alliedhealth/radiologicsscience/>).
3. Acceptance to the University of South Alabama.
4. Submit official college transcripts for all coursework not completed at the University of South Alabama. Transcripts are not required if the coursework has already been transferred to USA.
5. Application deadline is May 1.
6. Submit official ACT or SAT scores, regardless of previous educational background. ACT or SAT scores must be submitted by the application deadline of May 1.
7. Submission of three (3) completed personal reference forms by the application deadline. Reference forms are available at <http://www.southalabama.edu/colleges/alliedhealth/radiologicsscience> (<http://bulletin.southalabama.edu><http://www.southalabama.edu/colleges/alliedhealth/radiologicsscience/>).
8. Have a minimum cumulative overall (USA and transfer) GPA of 2.0 ("C" average) on previously completed college-level courses, as well as at least a "C" in all math and Sciences courses. Transcripts must be submitted by the application deadline.
9. Students applying for admission to the professional component must complete four (4) hours of observation in a hospital Radiology department prior to reporting for the admission interview. Following submission of the departmental application, applicants may call the Department of Radiologic Sciences at (251) 445-9346 any time after February 1st during the year in which they plan to apply, and schedule a hospital observation appointment. Observation form and instructions are available at <http://www.southalabama.edu/colleges/alliedhealth/radiologicsscience> (<http://www.southalabama.edu/colleges/alliedhealth/radiologicsscience/>).
10. Meet program technical/core performance standards. Core performance standards are fundamental tasks and skills that are required for successful completion of the program. They have been outlined and are available upon request and on the department website under Frequently Asked Questions (FAQ).
11. Complete a brief writing assignment conducted on the day of interview.
12. Complete a personal interview with members of the Radiologic Sciences Admissions Committee.
13. Applicants will be screened on the basis of past educational performance and the potential for the number of openings available. Therefore, acceptance into the University does not guarantee admission into the program. Likewise, admission into the program does not guarantee a position in a particular track/modality for one's senior year.
14. Student acceptance into the program is provisional pending completion of a drug screen and background check requirements as specified in the acceptance letter. Refusal to submit will result in nullification of acceptance into the program.

15. Proof of medical insurance must be provided and maintained throughout the program following official notification of acceptance into the program. Due date will be specified in the acceptance letter.
16. ARRT certified radiographers who have completed the pre-professional component and are seeking the baccalaureate degree may apply for admission into the second year (senior year) of the professional component.
17. International students must score a minimum of 76 on the TOEFL exam to include the following minimum sub-scores on the IBT:
 - Listening 20
 - Speaking 20
 - Reading 18
 - Writing 18

The IELTS exam will not be used as an admission requirement to the Radiologic Sciences Program

Special Fees

- Books: Approximately \$700-800
- Uniforms: Approximately \$250
- Clinical Data System: One-time payment of \$150
- Drug Screen: Approximately \$25
- Background Check: Varies based on number of prior residences, but approximately \$50
- Personal Medical Insurance: Must possess throughout program

Degrees, Programs, or Concentrations

- Radiologic Sciences (BS) (<http://bulletin.southalabama.edu/programs-az/allied-health/radiologic-sciences/radiologic-sciences-bs/>)

Courses

RAD 101 Prin of Radiographic Exposure 4 cr

A study of the principles involved in image formation including radiographic films, film processing, and exposure factors affecting film quality.

RAD 104 Patient Care-Ethics in Radiogr 3 cr

This course is designed to give the student basic knowledge concerning patient care and ethical situations with which the radiographer must be familiar. Class time is allotted for the student to practice certain techniques pertinent to obtaining vital signs, handling of patients, sterile technique, tray set-up, first-aid measures, and general operating room and bedside radiography procedures.

RAD 107 Clinical Education I 1 cr

Hospital-based laboratory allowing the student additional clinical experience in RAD 101 and RAD 104.

RAD 108 Clinical Education II 1 cr

Hospital-based laboratory allowing the student to apply those positioning techniques within a clinical setting as presented in RAD 131.

RAD 109 Clinical Education III 4 cr

Hospital-based laboratory experience allowing the student increased responsibility in those areas covered in RAD 131 as well as bedside radiography.

RAD 131 Radiography-Osseous System I 4 cr

This course includes the demonstration and practice in positioning and phantom radiography of the chest, general abdomino-pelvic viscera, and the upper and lower extremities to include shoulder and pelvic girdles. Special fee.

RAD 201 Radiography-Osseous System II 6 cr

A continuation of RAD 131 to include the axial skeleton, sternum, sternoclavicular joints, etc., and other topics relating to diagnostic imaging. Special fee.

RAD 204 Clinical Education IV 4 cr

Hospital-based laboratory allowing the student to obtain clinical experience in those areas presented in RAD 201 and RAD 215.

RAD 215 Radiographic Contrast Media 4 cr

A detailed study of contrast media, preparation and administration, radiographic positions, technique, and anatomy and physiology of the organs are studied.

RAD 218 Radiologic Physics 4 cr

A study of fundamentals of magnetism, basic electricity, x-ray machine circuitry, x-ray protection, and radiation physics, to give the student a basic understanding of the principles underlying the production of x-rays and their interaction with matter.

RAD 265 Radiation Biology 2 cr

A study of health physics and methods used to reduce exposure to personnel and patients in diagnostic and therapeutic radiology. The biological effects of ionizing radiation are stressed along with applied mathematical principles.

RAD 300 Clinical Education I 2 cr

Hospital-based laboratory allowing the student additional clinical experience in RAD 312 and RAD 304.

RAD 301 Clinical Education II 4 cr

Hospital-based laboratory allowing the student to obtain clinical experience in those areas presented in RAD 307.

Prerequisite: RAD 300 Minimum Grade of C and RAD 304 Minimum Grade of C and RAD 307 Minimum Grade of C and RAD 310 Minimum Grade of C and RAD 312 Minimum Grade of C

RAD 302 Clinical Ed III 4 cr

Hospital-based laboratory allowing the student additional clinical experience.

RAD 304 Patient Care & Ethics 3 cr

Basic knowledge concerning patient care and ethical situations with which the radiologic technologist must be familiar. Class time is allotted for the student to practice certain techniques pertinent to obtaining vital signs, handling of patients, sterile technique, tray setup, first-aid measures, and general operating room and bedside radiography procedures.

RAD 305 Clinical Education V 4 cr

Hospital-based laboratory allowing the student to gain additional clinical experience in RAD 201 and 215.

RAD 307 Osseous I 4 cr

This course includes the demonstration and practice in positioning and phantom radiography of the chest, general abdomino-pelvic viscera, and the upper and lower extremities to include shoulder and pelvic girdles.

RAD 308 Osseous II 4 cr

Continuation of RAD 307 to include the axial skeleton, sternum, sternoclavicular joints and introductory topics relating to special radiographic procedures.

RAD 309 Osseous III 3 cr

Continuation of RAD 308 to include demonstration and practice in positioning and phantom radiography of the cranium, facial bones, optic foramina, TMJs, orbits, overview of mastoids, stereoscopy, tomography, long bone measurements, foreign body localization and fetal imaging.

RAD 310 Radiation Biology 2 cr

A study of health physics and methods used to reduce exposure to personnel and patients in diagnostic and therapeutic radiology. The biological effects of ionizing radiation are stressed along with applied mathematical principles.

RAD 311 Survey of Pathology 4 cr

A general survey of diseases designed to acquaint the student with certain changes that occur in disease and their application to radiologic technology.

RAD 312 Princ of Radiographic Exposure 4 cr

A beginning study of the principles involved in image formation including exposure factors affecting image quality.

RAD 315 Contrast Media 2 cr

A detailed study of contrast media, preparation and administration, radiographic positions, technique, and anatomy and physiology of the organs studied.

Prerequisite: RAD 300 Minimum Grade of C and RAD 304 Minimum Grade of C and RAD 307 Minimum Grade of C and RAD 310 Minimum Grade of C and RAD 312 Minimum Grade of C

RAD 318 Radiologic Physics 4 cr

A study of the fundamentals of magnetism, basic electricity, x-ray machine circuitry, x-ray protection, and radiation physics, to give the student a basic understanding of the principles underlying the production of x-rays and their interaction with matter.

Prerequisite: RAD 304 Minimum Grade of C and RAD 307 Minimum Grade of C and RAD 310 Minimum Grade of C and RAD 312 Minimum Grade of C and RAD 300 Minimum Grade of C

RAD 320 Cross-Sectional Anatomy 2 cr

A study of cross-sectional anatomy as imaged in MRI and CT.

RAD 335 Pediatric-Geriatric Rad 1 cr

A detailed study of specialized equipment, accessories and positioning techniques used in pediatric and geriatric radiography.

RAD 337 Image Analysis 5 cr

Critique sessions of radiographic images including quality control procedures.

RAD 394 Dir Independent St in Rad-W 2 cr

Directed study in approved areas of medical imaging. Includes a comprehensive Registry Review and requires written assignments and a presentation.

RAD 401 Vascular Radiography I 5 cr

Advanced practice in, and in-depth study of, the principles of vascular radiography.

RAD 402 Vascular Radiography II - W 5 cr

A continuation of RAD 401.

RAD 403 Clinical Education IV 4 cr

Hospital-based laboratory allowing the student to obtain clinical experience in those areas presented in RAD 308 and RAD 310.

Prerequisite: RAD 300 Minimum Grade of C and RAD 304 Minimum Grade of C and RAD 307 Minimum Grade of C and RAD 310 Minimum Grade of C and RAD 312 Minimum Grade of C

RAD 404 Clinical Education V 4 cr

Hospital-based laboratory allowing the student to obtain clinical experience.

Prerequisite: RAD 403 Minimum Grade of C and RAD 411 Minimum Grade of C and RAD 415 Minimum Grade of C

RAD 405 Clinical Education VI 4 cr

Hospital-based laboratory allowing the student to obtain clinical experience.

Prerequisite: RAD 404 Minimum Grade of C

RAD 406 Computerized Tomography II - W 5 cr

A continuation of RAD 405.

RAD 407 Clinical Education I - PPC 6 cr

This is a hospital based laboratory allowing the student to gain additional clinical experience in general radiographic procedures. This course is designed for students who have previously completed the Radiologic Sciences program in Ultrasound or Radiation Therapy.

RAD 408 Clinical Education II - PPC 6 cr

This is a hospital based laboratory allowing the student to gain additional clinical experience in general radiographic procedures. This course is designed for students who have previously completed the Radiologic Sciences program in Ultrasound or Radiation Therapy. This course is a continuation of RAD 407.

Prerequisite: RAD 407 Minimum Grade of C

RAD 409 Magnetic Resonance Imaging I 5 cr

An in-depth study of the principles and clinical applications of MRI.

RAD 410 Magnetic Res Imaging II - W 5 cr

A continuation of RAD 409.

RAD 411 Survey of Pathology 4 cr

A general survey of diseases designed to acquaint the student with certain changes that occur in disease and their application to radiologic sciences.

Prerequisite: RAD 300 Minimum Grade of C and RAD 304 Minimum Grade of C and RAD 307 Minimum Grade of C and RAD 310 Minimum Grade of C and RAD 312 Minimum Grade of C

RAD 413 Mammography I 5 cr

Advanced practice and in-depth study of breast imaging techniques.

RAD 414 Mammography II - W 5 cr

A continuation of RAD 413.

RAD 415 Diagnostic Imaging 2 cr

This course includes principles and clinical applications of image intensification, computer applications in radiology, CR, DR, IDDR, PACS, AEC function, magnification radiography, thermography, diaphanography and bone densitometry.

Prerequisite: RAD 300 Minimum Grade of C and RAD 304 Minimum Grade of C and RAD 307 Minimum Grade of C and RAD 310 Minimum Grade of C and RAD 312 Minimum Grade of C

RAD 417 Ultrasound Anatomy & Scanning-W 4 cr

This course will include lecture/clinical/laboratory demonstration and guidelines for the ultrasound evaluation of the abdomen, retro-peritoneum and superficial structures and also include a writing component.

Prerequisite: EH 102 Minimum Grade of C

RAD 418 Ultras Anat-Scan Tech-OB-GYN 3 cr

This course is a continuation of RAD 417 and includes clinical/laboratory demonstration and guidelines for obstetric and gynecological ultrasound.

Prerequisite: RAD 417 Minimum Grade of C

RAD 419 Ultras Tech-Superf Struct-Peds 3 cr

This course is a continuation of RAD 418 and is designed to provide the student with anatomy, pathology and scanning techniques of superficial structures and pediatrics. It includes clinical and laboratory demonstrations. Special fee.

Prerequisite: RAD 418 Minimum Grade of C

RAD 421 Ultras Physics-Instrumentation 3 cr

A study of the basic physical principles and instrumentation of diagnostic ultrasound.

RAD 423 Ultrasound Clinical Educ I 6 cr

Hospital-based laboratory allowing the student to gain clinical experience in ultrasound procedures, with emphasis on abdominal exams.

RAD 424 Ultrasound Clinical Educ II 6 cr

Continuation of RAD 423 allowing the student to gain clinical experience in ultrasound procedures, with emphasis on OB/GYN exams.

RAD 425 Ultrasound Clinical Educ III 6 cr

A continuation of RAD 424 allowing the student to gain clinical experience in ultrasound procedures, with emphasis on superficial structures, pediatric scans, and ultrasound guided procedures.

RAD 426 CT Phys Princ and Qual Cont 3 cr

A study in advanced practice in, and in depth study, of computerized tomography. Topics will include a history of CT, physical principles of CT, quality control and data acquisition, image reconstruction, and image manipulation, display and storage.

RAD 427 Procedural Guidelines in Ultra 3 cr

This course will include a review of guidelines for ultrasound exams, ethics in ultrasound and preparation for the ultrasound registry. Assigned student papers and oral presentations addressing ultrasound topics are required.

RAD 428 Computed Tomography Procedures 3 cr

Provides a detail student of procedures performed in CT. Topics include advanced patient care, patient education, preparation, contrast administration, radiation dosimetry and imaging protocols of the head, neck, chest, abdomen, pelvis, spine and musculoskeletal systems.

RAD 429 Adv Sect Imag - CT and MRI Pth 3 cr

This course will distinguish various types of pathologies imaged in CT and MRI. In addition to imaging characteristics, emphasis will be placed on a general understanding of the description, etiology, epidemiology, signs and symptoms, treatment and prognosis.

RAD 430 Healthcare Communication 3 cr

This course will provide knowledge of information technology and applications of IT in the healthcare setting. Topics of discussion will include how to foster interdisciplinary communication, development of action plans for areas that are compliant/non-compliant with organizational objectives, and utilization of electronic or manual systems.

RAD 432 Healthcare Human Resource Mgmt 3 cr

This course will enable students to develop an effective recruitment and staffing program, implement a retention program, conduct staff performance evaluations, establish and develop processes to expand employee competence, implement a leadership development program, develop a succession plan and create an employee recognition program.

RAD 433 Health Care Financial Mgmt 3 cr

Course provides students with knowledge of both fiscal and asset management health care organization with tools and techniques to include health care accounting and financial statement, making major capital investments, determining cost and using cost information in decision making, and budgeting performance management.

RAD 435 Health Care Operations Mgt - W 3 cr

Provide knowledge to use surveys, focus groups, and interviews, use quality improvement methods, develop industry partnerships and develop new opportunities, develop marketing and public relations plans, develop policies and procedures to follow federal, state, and other regulatory guidelines, enforce policies and procedures with monitoring techniques, and develop a quality management program.

RAD 437 Image Analysis 3 cr

Student radiographs taken during the clinical periods will be viewed and critiqued within the classroom.

Prerequisite: RAD 403 Minimum Grade of C and RAD 411 Minimum Grade of C and RAD 415 Minimum Grade of C

RAD 440 Radiology Management Preceptor 1 cr

To achieve the aims of the Radiology Management program, students require experience in a variety of settings, in addition to learning theory content in their management courses. This course will provide a valuable component of student development by providing an opportunity to work with professional radiology managers/supervisors/administrators in the field of Radiology.

Prerequisite: RAD 430 Minimum Grade of C and RAD 432 Minimum Grade of C and RAD 433 Minimum Grade of C and RAD 435 Minimum Grade of C

RAD 441 Clinical Education I 5 cr

Through structured sequential assignments in clinical education settings, concepts of team practice, patient-centered clinical practice, and professional development are presented. Course designed to provide development, application, analysis, integration, synthesis, and evaluation of concepts and theories in radiation therapy.

RAD 442 Clinical Education II 6 cr

A continuation of RAD 441. Through structured sequential assignments in clinical education settings, concepts of team practice, patient-centered clinical practice, and professional development are presented. Course designed to provide development, application, analysis, integration, synthesis, and evaluation of concepts and theories in radiation therapy.

RAD 443 Clinical Education III 7 cr

A continuation of RAD 442. Through structured sequential assignments in clinical education settings, concepts of team practice, patient-centered clinical practice, and professional development are presented. Course designed to provide development, application, analysis, integration, synthesis and evaluation of concepts and theories in radiation therapy.

RAD 444 Clinical Education IV 6 cr

A continuation of RAD 443.

RAD 446 Orientation to Oncology - W 3 cr

Examines Oncology terminology, concepts of diagnosis and treatment, orientation to equipment and procedures and the role of the radiation therapist. Ethical, legal and quality assurance concerns will also be discussed.

RAD 448 Radiation Therapy Physics 3 cr

Processes in radiation production, interactions, detection, and measurement, units, calibration, are presented. Routine and emergency protection procedures for radiation-producing devices and radioactive sources are emphasized. Includes discussions on quality assurance methods, treatment unit calibration, dose monitoring, beam verification, and radiation protection for the patient, health-care worker, and the public.

RAD 450 Patient Care in Oncology 1 cr

Fundamentals of oncology patient care with emphasis on physical and psycho-social needs assessment, treatment and disease side-effect management, nutritional care and pain management.

RAD 452 Prin Pract of Rad Oncology I 3 cr

A study of techniques used for simulation and treatment delivery. Includes general and site-specific instruction, with attention given to technical details aimed at optimizing the dose delivery planned during simulation and accomplished during treatment. Time will be dedicated to demonstration of techniques.

RAD 453 Prin Prac of Rad Oncology II 3 cr

A study of techniques used for simulation and treatment delivery. Includes general and site-specific instruction, with attention given to technical details aimed at optimizing the dose delivery planned during simulation and accomplished during treatment. Time will be dedicated to demonstration of techniques.

RAD 454 Quality Mgt In Rad Oncology 1 cr

Components of quality management in Radiation Oncology will be studied, to include quality control and assurance checks for the clinical aspects of patient care, medical records, treatment delivery and localization equipment and treatment planning equipment. The role of various team members in continuous quality improvement will be discussed as well as legal and regulatory implications.

Prerequisite: RAD 441 Minimum Grade of C and RAD 448 Minimum Grade of C and RAD 446 Minimum Grade of C and RAD 450 Minimum Grade of C and RAD 452 Minimum Grade of C

RAD 455 Dosimetry and Tx Planning I 3 cr

Content designed to examine factors that influence and govern clinical planning treatment. Encompasses isodose characteristics, contouring of relevant structures, dosimetric calculations, compensation, and clinical application of treatment beams. Optimal treatment planning is emphasized.

RAD 456 Dosimetry and Tx Planning II 2 cr

A continuation of RAD 455. Content designed to examine factors that influence and govern clinical planning of patient treatment. Encompasses isodose characteristics, contouring of relevant structures, dosimetric calculations, compensation, and clinical application of treatment beams. Optimal treatment planning is emphasized.

RAD 458 Cancer Mgt in Oncology - W 3 cr

This course examines special topics in Radiation Oncology and places emphasis on current literature related to various aspects of practice.

RAD 459 Superficial Structures & Neonatal Scanning 3 cr

This course is a continuation of RAD 417. It includes clinical laboratory demonstration and guidelines for Superficial Structures & Neonatal Scanning.

RAD 475 Advanced Modality Clinical A 2 cr

Advance practice in hospital based laboratory/clinical settings. Clinical rotations will serve as the foundation for acquiring the appropriate clinical skills. The completion of assigned clinical rotations and clinical competencies are essential to filling objectives.

RAD 476 Advanced Modality Clinical B 2 cr

Advance practice in an additional hospital based laboratory clinical setting. Clinical rotations will serve as the foundation for acquiring the appropriate clinical skills. The completion of assigned clinical rotations and clinical competencies are essentials to filling objectives.

RAD 477 Computed Tomography I 2 cr

Advance practice in, and in-depth study of, computerized tomography

RAD 478 Computed Tomography II-W 2 cr

Continuation of RAD 477, with increased emphasis on 3-D imaging, biopsies and advanced CT techniques.

Prerequisite: RAD 477 Minimum Grade of C and EH 102 Minimum Grade of C

Corequisite: RAD 475

RAD 479 Computed Tomography III 2 cr

Advance practice in, and in-depth study of, computerized tomography

RAD 480 Mammography I - W 2 cr

Lecture and discussion of breast imaging and includes the history, scope of practice, introduction to MQSA, breast cancer and early detection, epidemiology, patient care, patient education and assessment.

Prerequisite: EH 102 Minimum Grade of C

Corequisite: RAD 475

RAD 481 Mammography II 2 cr

This course is continuation of RAD 480 with increased emphasis on quality assurance, mammographic digital imaging, diagnostic procedures, and 3D breast tomosynthesis.

RAD 482 Mammography III 2 cr

This course will include web enhanced lectures, demonstrations and review of RAD 480 and RAD 481 with increased emphasis on quality assurance and advanced mammographic digital imaging.

RAD 483 Magnetic Resonance Imaging I 2 cr

An in-depth study of the principles and clinical applications of MRI.

RAD 484 Magnetic Reson Imaging II - W 2 cr

This course introduces the basic principles of MR safety and covers the basic concepts of patient management. Educating patients and ancillary staff on magnet safety also is presented. Patient and magnet-related emergencies represent a unique situation to an MR tech.

Prerequisite: EH 102 Minimum Grade of C

Corequisite: RAD 475

RAD 485 Magnetic Resonance Imaging III 2 cr

A continuation of RAD 484 with additional emphasis on instrumentation, abdominal, extremity and joint procedures.

RAD 486 Vascular Radiography - W 2 cr

Advanced practice and in-depth study of the principles of vascular radiography with writing component.

Corequisite: RAD 475

RAD 487 Vascular Radiography II 2 cr

Advanced practice and in-depth study of the principles of vascular radiography, with increased emphasis on digital radiography as applied to vascular procedures.

RAD 488 Vascular Radiography III 2 cr

Advanced practice and in-depth study of the principles of vascular radiography, with increased emphasis on vascular procedures.

RAD 490 Special Topics 1-3 cr

Selected topics in Radiological Sciences. Students can increase knowledge in specific areas of radiological sciences, and also use this course to gain extra credit hours to complete their baccalaureate degree.

RAD 491 Prof. Radiological Practice 6 cr

A bridge course for certified radiographers to transition from Radiographer to BS program.

RAD 494 Directed Independent Study 2 cr

A comprehensive registry review to include written assignments and a presentation.

RAD 496 Radiologic Sci Research I-W 1 cr

Writing intensive course that prepares students to perform a research project in one of the imaging modalities.

Prerequisite: EH 102 Minimum Grade of C

RAD 497 Rad Science Research II 1 cr

Continuation of RAD 496. Students will design and perform a research project.

Prerequisite: RAD 496 Minimum Grade of C

RAD 499 Senior Honors Project - H - W 1-3 cr

Under the advice and guidance of a faculty mentor, honors students will identify and carry out a research project relevant to the field of Radiologic Sciences study that will lead to a formal presentation at the annual Honors Student Colloquium. The senior project will be judged and graded by three faculty members chaired by the honors mentor. This course is required for Honors recognition and may be repeated for up to 6 credit hours. Prerequisite: Permission of the department chair and completion of an approved project prospectus.

Prerequisite: RAD 403 Minimum Grade of C or RAD 423 Minimum Grade of C or RAD 441 Minimum Grade of C or RAD 460 Minimum Grade of C or RAD 464 Minimum Grade of C or RAD 468 Minimum Grade of C or RAD 472 Minimum Grade of C

Faculty

Faculty Name	Faculty Department	Faculty Position	Degrees Held
CLEVELAND, DONNA GAYLE (dcleveland@southalabama.edu)	Radiologic Sciences	Instructor	CERT, University of South Alabama BS, University of South Alabama MED, University of South Alabama
COOPER, CATHERINE MARIE NAYLOR (ccooper@southalabama.edu)	Radiologic Sciences	Senior Instructor	BSRS, University of South Alabama MS, University of South Alabama
CURTIS, MARY ANN (macurtis@southalabama.edu)	Radiologic Sciences	Instructor	BSRS, University of South Alabama MS, University of South Alabama
JALKH, CHUCRI M. (cjalkh@southalabama.edu)	Radiologic Sciences	Senior Instructor	BS, University of South Alabama MS, University of South Alabama
MANNING, JACOB ALLEN (jamanning@southalabama.edu)	Radiologic Sciences	Instructor	BA, Auburn University CERT, University of South Alabama BS, University of South Alabama MS, Northwestern State University
NEELY, KAYLA MARIE (kperkins@southalabama.edu)	Radiologic Sciences	Instructor	CERT, University of South Alabama BS, University of South Alabama MBA, University of West Florida
SMITH, MELTON D (dasmith@southalabama.edu)	Radiologic Sciences	Senior Instructor	BS, University of South Alabama MHA, University of Phoenix