MEDICAL IMAGING SCIENCES

Radiologic Technology is a scientific art using (X-ray) radiation to provide images of bones, organs, soft tissue, and vessels that comprise the human body. A Radiologic Technologist or Radiographer is a healthcare professional. They apply their education and training in hospitals, clinics, imaging centers, and private medical offices. The Radiologic Technologist is an essential member of the Healthcare team working directly with the patient and physician(s), performing a wide variety of diagnostic radiographic procedures.

Our program prepares the student for an entry-level position with a curriculum covering patient care, safety, image production, and radiographic procedures. Upon successful completion of the program, the student will be eligible to take the certification examinations prepared by the American Registry of Radiologic Technologists (ARRT) and receive the State of California Department of Public Health (CDPH) certification.

The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), in coordination with the California Department of Public Health, Radiologic Health Branch (CDPH-RHB).

Programs of Study

Associate Degrees

- Radiography, Associate in Science (AS) ([https://catalog.sbcc.edu/academic-departments/medical-imaging-sciences/radiography-as/](https://catalog.sbcc.edu/academic-departments/medical-imaging-sciences/radiography-as/))

Credit Courses

Radiographic and Imaging Sciences (RT)

RT 100 Radiography and Health Care (2 Units)
Hours: 36 (36 lecture)
Introduction, overview and orientation for those interested in exploring radiographic imaging or other health care careers. Completion of this course and departmental prerequisites satisfy the requirements for entry into the Radiography Associate Degree Program.
Transfer Information: CSU Transferable

RT 101 Introduction To Radiography (2.33 Units)
Prerequisites: RT 100 and BMS 107 and BMS 108.
Skills Advisories: Eligibility for ENG 110 or ENG 110H.
Hours: 54 (36 lecture, 18 lab)
Proficiency in MATH 104 or MATH 107 or MATH 111. Orientation to Radiography, providing students with entry-level information and skills to begin practice in an X-ray department. Topics include ethics, introduction to fluoroscopy, lab practice, basic radiation protection and patient care.
Transfer Information: CSU Transferable

RT 102 Fundamentals of Radiographic Positioning and Procedures I (4 Units)
Prerequisites: RT 101 and HIT 135.
Hours: 108 (54 lecture, 54 lab)
Precise and detailed information on routine radiographic procedures of the chest, abdomen and appendicular skeleton. Portable and traumatic exams also included.
Transfer Information: CSU Transferable

RT 103 Fundamentals Of Radiographic Positioning And Procedures II (4 Units)
Prerequisites: RT 102.
Hours: 108 (54 lecture, 54 lab)
Basic principles of positioning for the axial skeleton to include vertebral column, skull, facial bones contrast procedures for the gastrointestinal and genito-urinal tract.
Transfer Information: CSU Transferable

RT 109 Principles of Radiographic Exposure (3 Units)
Prerequisites: RT 101.
Hours: 54 (54 lecture)
Provides first-year radiography students with the basic principles of image production, exposure techniques, photographic and geometric factors, computed and direct digital radiography and radiation protection.
Transfer Information: CSU Transferable

RT 111 Advanced Principles of Exposure (3 Units)
Prerequisites: RT 109.
Hours: 54 (54 lecture)
Principles of x-ray exposure are examined on image production in computed radiography, digital imagine systems, analog and digital fluoroscopic systems.
Transfer Information: CSU Transferable

RT 119 Radiological Technology (3 Units)
Prerequisites: RT 109 and RT 102.
Skills Advisories: Eligibility for ENG 110 or ENG 110H and proficiency in MATH 4 or MATH 41.
Hours: 54 (54 lecture)
Designed specifically for radiation physics. The primary focus is on the fundamental concepts of energy and measurement, atomic structure, molecules, electricity, magnetism, electromagnetism, x-ray tubes, production, emission and interactions.
Transfer Information: CSU Transferable

RT 120 Patient Care in Radiography (3 Units)
Prerequisites: BMS 107 and BMS 108.
Hours: 54 (54 lecture)
Provides the student with the concepts of patient care. Routine and emergency patient care procedures are described. Also included are topics on venipuncture and contrast media/medication administration. The role of the imaging professional in practicing patient care is explored. Aspects of death and dying reviewed.
Transfer Information: CSU Transferable

RT 121 Venipuncture In Radiography (0.6 Units)
Limitations on Enrollment: Must be a Licensed Radiographer.
Hours: 11 (11 lecture)
Provides the student with concepts of venipuncture and contrast media/medication administration. The role of the radiographer in administration of contrast media, legal aspects of contrast media injection, anatomy and physiology related to I.V. injections are identified.
Transfer Information: CSU Transferable

RT 191 Radiographic Technology Clinical Practicum I (5 Units)
Prerequisites: RT 101.
Corequisites: RT 102.
Hours: 306 (306 lab)
Concurrent Introduction to clinical settings and exposure to departmental organization, patient flow, CR/DR and PACs, observation of techniques employed, and policies and procedures of clinical cases. The student performs basic radiographic procedures under direct supervision.
Transfer Information: CSU Transferable
RT 191A Radiographic Technology Clinical Practicum 1A (2.1 Units)
Prerequisites: RT 191 and RT 109.
Hours: 112 (112 lab)
Designed to give each advanced student the opportunity to improve on clinical skills, as well as accumulate the clinical hours required by the California Department of Health.
Transfer Information: CSU Transferable

RT 192 Radiographic Technology Clinical Practicum 2 (5 Units)
Prerequisites: RT 191.
Hours: 306 (306 lab)
Second in a series of clinical education courses. Student is assigned 17 hours per week at a clinical education center. During this supervised experience, the student observes and performs diagnostic radiographic procedures. The student must demonstrate competency in recently taught radiographic exam, as well as in the exams previously evaluated.
Transfer Information: CSU Transferable

RT 202 Advanced Radiographic Procedures (3 Units)
Prerequisites: RT 250.
Hours: 54 (54 lecture)
Provides the advanced radiography student with a survey of advanced imaging and an introduction to special invasive procedures in radiation sciences.
Transfer Information: CSU Transferable

RT 203 Radiology Certification Preparation (4 Units)
Hours: 72 (72 lecture)
Review of those subjects deemed critical for the ARRT examination. Consists of lectures, both by the instructor and guest, simulated registry examinations and a computer-assisted learning program.

RT 220 Radiation Biology Protection (3 Units)
Prerequisites: RT 103 and RT 111.
Hours: 54 (54 lecture)
Radiation protection for operator and patients complying with the State of California Administrative Code, Title 17. Biological effects, dose-effect relationships and long-term somatic and genetic effects of radiation exposure are discussed, in addition to fluoroscopic radiation safety regulations. Approved by the California Department of Public Health (CDPH) and prepares students for the California State Fluoroscopy Examination.
Transfer Information: CSU Transferable

RT 230 Radiographic Pathology (3 Units)
Prerequisites: RT 103.
Hours: 54 (54 lecture)
Introduction to more advanced pathological conditions for second-year students. Differentiates normal radiographic anatomy from pathologic conditions. Encompasses both the anatomy and physiology of each pathologic condition. Students expected to identify, evaluate and present common pathologic conditions throughout the course.
Transfer Information: CSU Transferable

RT 250 Principles and Applications of Cross-Sectional Anatomy in Imaging (2 Units)
Prerequisites: BMS 107 and BMS 108.
Hours: 36 (36 lecture)
Provides an understanding of cross-sectional anatomy and knowledge of the relationships of human organs to each other as they appear in the sagittal, coronal and axial plane. The practical applications of cross-sectional with C.T., M.R.I. and ultrasound are emphasized.
Transfer Information: CSU Transferable

RT 251 Principles of Mammography and Procedures (2 Units)
Prerequisites: RT 119 and BMS 107 and BMS 108.
Hours: 36 (36 lecture)
Prepares the radiographer for state and national certification in mammography. Content covers the anatomy and physiology of the breast, positioning, radiation biology and protection, and QA and QC regulations for mammography equipment.
Transfer Information: CSU Transferable

RT 290 Work Experience in Radiography (1-4 Units)
Limitations on Enrollment: Enrollment in a Radiology course, or current California Radiologic Technology license and at least one year's experience as a licensed Radiologic Technologist in a medical establishment within the preceding three years.
Hours: 300 (300 lab)
Consists of supervised on-the-job work experience for students whose radiology career objectives and course of study or employment complement each other. Students must accomplish specific course objectives. Class meetings are scheduled each semester. Course restricted to 3 repetitions
Transfer Information: CSU Transferable

RT 293 Radiographic Technology Clinical Practicum 3 (7 Units)
Prerequisites: RT 192.
Hours: 376 (376 lab)
Third in a series of clinical experiences requiring 40 hours per week for nine weeks in the clinical setting. This rotation allows the student opportunity to enhance basic skills, positioning techniques, patient care and understanding of clinical operations. The student must demonstrate continued competency in those exams previously mastered and additional competencies throughout the semester.
Transfer Information: CSU Transferable

RT 294 Radiographic Technology Clinical Practicum 4 (8 Units)
Prerequisites: RT 293.
Hours: 432 (432 lab)
Fourth in a series of clinical education courses to increase technical and clinical proficiency in routine and advanced X-ray procedures under supervision of the clinical coordinator/clinical instructor and departmental radiographers. The student must demonstrate competency of recently taught radiographic exams, plus continued competency of exams previously evaluated.
Transfer Information: CSU Transferable

RT 295 Radiographic Technology Clinical Practicum 5 (8.6 Units)
Prerequisites: RT 294.
Hours: 464 (464 lab)
Fifth in a series of clinical education courses to increase technical and clinical proficiency in routine and advanced X-ray procedures under supervision of the clinical coordinator/clinical instructor and departmental radiographers. The student must demonstrate competency of recently taught radiographic exams, plus continued competency of exams previously evaluated.
Transfer Information: CSU Transferable
RT 299 Independent Study In Radiography (1-4 Units)
Limitations on Enrollment: Completion of a minimum of 12 units at SBCC, with a 2.5 G.P.A., and a minimum of 6 units, with a 3.0 G.P.A. within the department. One to three hours of work/conference time per week to be coordinated with number of enrolled units.
Course Advisories: RT 103.
Hours: 216 (216 lab)
Independent research in radiography under the guidance of a sponsoring faculty member. The project to be consistent with the ability and interest of the student and may be conducted in the laboratory and/or the field. Each unit of credit is equal to three hours of work. NOTE: Continuation in the clinical area on a full-time basis will take place after graduation. This is done in order to complete the 24-month program requirement and will terminate upon the student’s anniversary date.
Transfer Information: CSU Transferable