

RADIOLOGIC TECHNOLOGY

Health, Athletics, Wellness, and Kinesiology Division

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<http://www.cabrillo.edu/academics/radtech/>

SELECTION PROCESS

Effective January 1, 2017, the total number of students placed into the program will be comprised of 50% from the current wait list and 50% random selection.

Students currently on the wait list retain their wait list # based on post mark date of application. Students who apply within the application window, May 1 – July 15, are eligible for 50% random selection. Students placed into the program are notified by January each year.

Effective since the application window, May 1, 2017 – July 15, 2017, qualified applicants are no longer placed onto the wait list. If not selected by random selection into the cohort that starts annually each fall semester, students may re-apply the following year.

After all students on the wait list have been offered placement into the program in accordance with the 50% wait list and 50% random selection method, 100% selection will be from annual application by random selection.

Please contact the RT Program Office at (831) 479-6461 to clarify this process and answer any questions.

Radiologic Technology A. S. Degree

This is a two-year Associate in Science Degree program providing professional training for radiologic technologists. Radiologic Technologists work in a professional environment at a hospital, clinic, or private office. Skill categories include patient care, positioning, operating X-ray equipment, image quality assessment, technical factors, and interacting with the general public, ancillary workers, and physicians.

The Radiologic Technology program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) and the Radiologic Health Branch of the California Department of Public Health. This program has earned the highest level of accreditation awarded by the JRCERT. A new class begins each year at the start of the fall semester. Students who successfully complete the program are eligible for State Certification in Diagnostic Radiography and to take the State Permit exam in Fluoroscopy. Program graduation also provides eligibility to sit for the American Registry of Radiologic Technology (ARRT) national board examination

Requirements for application include: Successful completion of the program prerequisites listed below, and the completion of the application process. Selection is based on completion of all required prerequisites with the appropriate GPA, clinical space availability, and date of application. The program has a separate selection process and requires a separate application in addition to the general college admission. For students not currently enrolled at Cabrillo College, general college application materials are available on the Cabrillo College website.

Radiologic Technology program applications are available on www.cabrillo.edu/academics/radtech/ (April 15 - July 15). Official transcripts must be sent with the program application. After reading the appropriate sections of the Cabrillo College catalog, please contact the RT office at (831) 479-6461 for specific questions regarding the applica-

tion. Due to the course load, it is advisable to complete as many of the general education requirements as possible before entering the program. Meeting minimum requirements does not guarantee entry into the program as enrollment is limited due to hospital clinical space.

Learning Outcomes

1. Students will demonstrate good patient communication.
2. Students will be clinically competent.
3. Students will participate in professional development/growth.
4. Students will demonstrate problem solving and critical thinking skills.
5. Graduates will be employed and effective in the community.

Prerequisites

	Units
BIO 4	Human Anatomy..... 4
BIO 5	*Human Physiology..... 4
PHYS 10	Introduction to Physics..... 3
PSYCH 1	General Psychology 3
or	
PSYCH 1H	Honors General Psychology 3
MA 70	Medical Terminology..... 3
ENGL 1A/1AH/1AMC/1AMCH 3

*A course such as CHEM 30A or CHEM 32 is the prerequisite for BIO 5; Intermediate Algebra (MATH 142 or MATH 152) or placement into Intermediate Algebra (MATH 142 or MATH 152) by assessment is a prerequisite to CHEM 30A or CHEM 32. Please see a counselor or check www.assist.org for more information if you are interested in transfer to a 4-year university in Radiologic Technology. All prerequisite and published curriculum courses must be completed with a grade of "C" or better. These prerequisites may also be used to satisfy appropriate general education areas.

It is required that prerequisite courses, specifically BIO 4, BIO 5 and MA 70, be completed within six years.

Elective Not Required for Radiologic Technology Degree Units

ALH 101*	A Review of Anatomy and Physiology 2
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*Usually offered summer session; highly recommended immediately prior to fall program entrance.

Mathematics Competency Requirement

The A. S. Mathematics Requirement may be met by successful completion of intermediate algebra or equivalent or a higher-level mathematics course with a grade of "C" or better. Successful completion must be verified by an official college transcript or by an appropriate score on the Cabrillo mathematics assessment.

Multicultural Requirement

An approved multicultural course is required for graduation. This course may be double counted with general education or other program graduation requirements. Courses taken at other regionally accredited colleges can be used when approved by a Cabrillo counselor.

Clinical Compliance Requirement

To comply with state and local regulations for health care providers, students accepted to the Cabrillo College Radiologic Technology program are required to meet vaccination and drug testing requirements and provide documentation before enrolling in the program. Students are also required to complete criminal background checks and may be required to undergo fingerprinting.

General Education Courses 21 Units

This A. S. Degree requires completion of a 21-unit general education pattern (see Cabrillo College *Catalog* under Associate in Science Degree or the A. S. Degree worksheets available in Counseling Division or on the Transfer and Articulation website).

A Bachelor of Science/Bachelor of Arts Degree from a regionally accredited college or university will satisfy all general education and competency requirements for Cabrillo's non-transfer A. A. and A. S. degrees, with the exception of the multicultural requirement and program specific graduation requirements.

Core Courses (60. 75 Units)

RT 50A	Patient Care in Imaging Technology	2
RT 50B	Ethics and Legal Aspects of Radiologic Technology	1
RT 50L	R. T. Patient Care Laboratory.....	0.25
RT 51	Radiographic Positioning I.....	2
RT 51L	Positioning Laboratory I.....	1
RT 52	Radiation Physics	2
RT 53AL	Basic Radiologic Technology Laboratory/ Clinic I	5.5
RT 53BL	Radiologic Technology Laboratory/ Clinic II.....	5.5
RT 53CL	Radiologic Technology Laboratory/ Clinic III.....	6
RT 54	Radiographic Image Assessment.....	1
RT 60	Principles of Radiographic Imaging	2
RT 60L	Applied Principles of Radiographic Imaging Lab	0.5
RT 61	Radiographic Positioning II.....	2
RT 61L	Radiographic Positioning Lab II	1
RT 62	Principles of Radiation Protection.....	2
RT 63AL	Advanced Positioning Lab/Clinic IV	8
RT 63BL	Advanced Positioning Lab/Clinic V.....	8
RT 70	Principles of Fluoroscopy.....	1
RT 70L	Applied Principles of Fluoroscopy	0.5
RT 71	Radiographic Positioning III.....	2
RT 71L	Positioning Laboratory III	1
RT 72	Advanced Diagnostic Imaging Research	2
RT 73	Medical Imaging Pathology	1
RT 82	Advanced Diagnostic Imaging.....	1
RT 83	Transition to the Professional Role	2
RT 175	Advanced Patient Care: Venipuncture for Radiographers.....	0.5

Electives-Mammography Units

RT 185	Principles of Mammography.....	2
RT 185C	Principles of Mammography Lab/Clinic	1
RT 185L	Principles of Mammography Lab	1

Electives-Postprimary Computed Tomography Units

RT 190A	Computed Tomography Physical Principles.....	3
RT 190B	Computed Tomography Protocol and Procedures.....	2
RT 190C	Applied Computed Tomography Clinical Education	6

Elective-Sectional Anatomy Units

RT 189A	Sectional Anatomy.....	2
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Total Units 81.75

Computed Tomography Skills Certificate

Learning Outcome

1. Demonstrate a mastery of advanced level medical imaging in Computed Tomography. Graduates will have averaged a score of 85% per cohort on the advanced level ARRT examination in Computed Tomography.

Required Courses Units

RT 189A	Sectional Anatomy.....	2
RT 190A	Computed Tomography Physical Principles.....	3
RT 190B	Computed Tomography Protocol and Procedures.....	2
RT 190C	Applied Computed Tomography Clinical Education	6

Total Units 13

Radiologic Technology Venipuncture Skills Certificate

Learning Outcome

Solve novel venipuncture problems with a variety of venous structures as presented with varying body types.

Required Course (.5 Units) Units

RT 175	Advanced Patient Care: Venipuncture for Radiographers.....	0.5
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Total Units .5

Radiologic Technology Courses

RT 50A Patient Care in Imaging Technology

2 units; 2 hours Lecture

Prerequisite: Acceptance to the Cabrillo College Radiologic Technology Program.

Repeatability: May be taken a total of 1 time.

Provides the concepts of optimal patient care including: physical assistance, routine and emergency patient care, infection control, pharmacology, and bloodborne pathogen protection.

Transfer Credit: Transfers to CSU.

RT 50B Ethics and Legal Aspects of Radiologic Technology

1 unit; 1 hour Lecture

Prerequisite: Acceptance to the Cabrillo College Radiologic Technology Program.

Repeatability: May be taken a total of 1 time.

Examines ethical standards and legalities pertaining to the field of medical imaging. Assesses culture, age, and stage of illness when providing optimal patient care.

Transfer Credit: Transfers to CSU.

RT 50L R.T. Patient Care Laboratory

0.25 units; 0.75 hours Laboratory

Prerequisite: Acceptance to the Cabrillo College Radiologic Technology Program.

Co-requisite: RT 50A.

Repeatability: May be taken a total of 1 time.

Provides practical application of the fundamentals of patient care in radiologic technology, to include radiation protection, body mechanics, contrast media preparation, vital signs, asepsis, HIPAA regulations, and standard precautions.

Transfer Credit: Transfers to CSU.

RT 51 Radiographic Positioning I

2 units; 2 hours Lecture

Prerequisite: Acceptance to the Cabrillo College Radiologic Technology Program.

Co-requisite: RT 51L.

Repeatability: May be taken a total of 1 time.

Presents routine and non-routine radiographic positioning and related anatomy of the chest, abdomen, upper and lower limbs, including basic radiographic terminology and topographic landmarks related to positioning. Related pathologies, their radiographic appearances and relative technical adjustments are included.

Transfer Credit: Transfers to CSU.

RT 53CL Radiologic Technology Laboratory/Clinic III

6 units; 18 hours Laboratory

Prerequisite: RT 53BL.

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Reviews clinical application of classroom theory (RT 51 and 61) and laboratory practice (RT 51L and 61L) in clinical education facilities under direct supervision. The student participates in radiographic/fluoroscopic procedures, radiology management systems, computerized patient systems, radiation safety, and patient care.

Transfer Credit: Transfers to CSU.

RT 54 Radiographic Image Assessment

1 unit; 1 hour Lecture

Prerequisite: RT 60.

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Provides a foundation for evaluating all radiographic images by outlining technical and digital imaging concepts.

Transfer Credit: Transfers to CSU.

RT 60 Principles of Radiographic Imaging

2 units; 2 hours Lecture

Prerequisite: RT 52

Co-requisite: RT 60L.

Repeatability: May be taken a total of 1 time.

Presents imaging equipment, technique formulation and factors as they are currently used in radiographic medical imaging. Proper image density, contrast, and resolution using film/screen and digital equipment, as well as maintenance of ongoing QA/QC procedures are emphasized.

Transfer Credit: Transfers to CSU.

RT 60L Applied Principles of Radiographic Imaging Lab

0.5 unit; 1.5 hours Laboratory

Prerequisite: RT 52

Co-requisite: RT 60.

Repeatability: May be taken a total of 1 time.

Applies theory of RT 60 in the laboratory setting to practically apply the effects of technique selection, collimation, distance, grid use, air gap technique and the use of film/screen, computed radiography, digital radiography, and darkroom procedures.

Transfer Credit: Transfers to CSU.

RT 61 Radiographic Positioning II

2 units; 2 hours Lecture

Prerequisite: RT 51.

Co-requisite: RT 61L.

Repeatability: May be taken a total of 1 time.

Teaches positioning principles, management of contrast media, related radiation protection, technical factors and nursing skills related to genitourinary, gastrointestinal tract, spine, ribs, sacrum, and coccyx. Both routine and non-routine projections are presented.

Transfer Credit: Transfers to CSU.

RT 61L Radiographic Positioning Lab II

1 unit; 3 hours Laboratory

Prerequisite: RT 51L.

Co-requisite: RT 61.

Repeatability: May be taken a total of 1 time.

Positioning procedures for both routine and optional examinations are presented, according to competency-based outcomes criteria related to RT 61 concurrent instruction.

Transfer Credit: Transfers to CSU.

RT 62 Principles of Radiation Protection

2 units; 2 hours Lecture

Prerequisite: RT 52.

Repeatability: May be taken a total of 1 time.

Teaches radiation protection for the patient/public and the technologist, and radiobiology with emphasis on radiation dose and biologic effects. Studies state and federal laws which govern and control the use of ionizing radiation and the manufacture and use of radiation equipment.

Transfer Credit: Transfers to CSU.

RT 63AL Advanced Positioning Lab/Clinic IV

8 units; 24 hours Laboratory

Prerequisite: RT 53CL.

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Applies classroom and lab theory from previous didactic courses to clinical education under indirect/direct supervision, with participation in all facets of the radiologic technologist job performance.

Transfer Credit: Transfers to CSU.

RT 63BL Advanced Positioning Lab/Clinic V

8 units; 24 hours Laboratory

Prerequisite: RT 63AL.

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Applies classroom and laboratory theory from previous didactic courses to clinical education under indirect/direct supervision, with participation in all aspects of radiologic imaging.

Transfer Credit: Transfers to CSU.

RT 70 Principles of Fluoroscopy

1 unit; 1 hour Lecture

Prerequisite: ARRT/CRT License or 2nd year Radiologic Technology Student.

Co-requisite: RT 70L.

Repeatability: May be taken a total of 1 time.

Provides an overview of the State of California Fluoroscopy regulations in preparation for the state certification exam.

Transfer Credit: Transfers to CSU.

RT 70L Applied Principles of Fluoroscopy

0.5 unit; 1.5 hours Laboratory

Prerequisite: ARRT/CRT License or 2nd year Radiologic Technology Student.

Co-requisite: RT 70.

Repeatability: May be taken a total of 1 time.

Teaches manipulation of mobile and stationary fluoroscopy equipment, QA/QC procedures, selection of parameters and accessories that are selected to minimize radiation dose and maximize image quality.

Transfer Credit: Transfers to CSU.

RT 71 Radiographic Positioning III

2 units; 2 hours Lecture

Prerequisite: RT 61.

Co-requisite: RT 71L.

Repeatability: May be taken a total of 1 time.

Teaches Part III of the radiographic positioning course sequence including the cranium, facial bones, paranasal sinuses, pediatric radiography, and legal aspects of elder and child abuse.

Transfer Credit: Transfers to CSU.

RT 71L Positioning Laboratory III

1 unit; 3 hours Laboratory

Prerequisite: RT 61.

Co-requisite: RT 71.

Repeatability: May be taken a total of 1 time.

Applies Part III of the radiographic positioning course sequence, including the cranium, facial bones, mandible with joints and paranasal sinuses.

Transfer Credit: Transfers to CSU.

RT 72 Advanced Diagnostic Imaging Research

2 units; 2 hours Lecture

Prerequisite: Acceptance to the Cabrillo College Radiologic Technology Program.

Repeatability: May be taken a total of 1 time.

Introduces technically advanced imaging modalities including CT, MRI, mammography, bone densitometry, nuclear medicine, radiation therapy, and others in order to assist in the development of skills in formal research and presentation. May be offered in a Distance-Learning Format.

Transfer Credit: Transfers to CSU.

RT 73 Medical Imaging Pathology

1 unit; 1 hour Lecture

Prerequisite: RT 61.

Repeatability: May be taken a total of 1 time.

Surveys pathologies and etiological considerations with emphasis on radiographic appearance of disease and impact on exposure factor selection.

Transfer Credit: Transfers to CSU.

RT 82 Advanced Diagnostic Imaging

1 unit; 1 hour Lecture

Prerequisite: RT 72.

Repeatability: May be taken a total of 1 time.

Presents advanced radiographic procedures to include advanced modalities of computerized tomography, angiography, ultrasonography, bone densitometry, and interventional radiography.

Transfer Credit: Transfers to CSU.

RT 83 Transition to the Professional Role

2 units; 2 hours Lecture

Prerequisite: Graduation from an accredited Radiation Technology Program or 2nd year Radiation Technology student.

Repeatability: May be taken a total of 1 time.

Provides a comprehensive review of patient care, radiographic procedures, radiation protection, image production and evaluation, equipment operation and maintenance and the State of California's Health Code, Title XVII regarding fluoroscopic radiation laws, and application/resume preparation.

Transfer Credit: Transfers to CSU.

RT 175 Advanced Patient Care: Venipuncture for Radiographers

0.5 unit; 0.5 hour Lecture, 0.5 hour Laboratory

Prerequisite: RT 61 or ARRT or CRT license and CPR/Healthcare provider certification.

Repeatability: May be taken a total of 1 time.

Basic instruction and practice of venipuncture methods/procedures for the administration of contrast agents. Routes of administration, safety, basic pharmacology, dosage calculations, and emergency procedures.

Transfer Credit: Non-transferable.

RT 184AZ Special Topics in Radiologic Technology

1 – 3 units; 3 – 9 hours Laboratory

Prerequisite: Selection to the Radiologic Technology Program.

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Special topics in the radiologic sciences. Topics may include lab and/or field work, learning lab or directed reading. Enrichment program in the radiologic sciences. Course is tailored to individual needs and interests as enrichment or expansion of subject area material. May be taken a total of four times for different topics.

Transfer Credit: Non-transferable.

RT 185 Principles of Mammography

2 units; 2 hours Lecture

Prerequisite: CRT or ARRT license or within one year of graduation from an accredited Radiologic Technology Program and CPR/Healthcare provider certification.

Co-requisite: RT 185L.

Repeatability: May be taken a total of 1 time.

Studies the theory and practice of mammographic positioning, quality assurance/quality control, and imaging the anatomy and pathophysiology of the breast. Prepares the student in part for the state and national certification exams in mammography.

Transfer Credit: Non-transferable.

RT 185C Principles of Mammography Lab/Clinic

1 unit; 3 hours Laboratory

Prerequisite: CRT or ARRT license or 2nd year Radiologic Technology student and CPR/Healthcare provider certification.

Co-requisite: RT 185 and RT 185L.

Repeatability: May be taken a total of 1 time.

Clinical application of classroom theory and laboratory skills (RT185 and RT185L) with use of Mammography patient and imaging protocols. Demonstration of competency in current mammographic practices to meet qualifications under the Mammography Quality Standards Act (MQSA Federal regulations) in conjunction with California state certification requirements.

Transfer Credit: Non-transferable.

RT 185L Principles of Mammography Lab

1 unit; 3 hours Laboratory

Prerequisite: CRT or ARRT license or within one year of graduation from an accredited Radiologic Technology Program and CPR/Healthcare provider certification.

Co-requisite: RT 185.

Repeatability: May be taken a total of 1 time.

Provides the laboratory component to RT 185, to include: Breast positioning and imaging techniques, quality control/quality assurance, and operation of digital and analog mammographic equipment for both image acquisition and processing.

Transfer Credit: Non-transferable.

RT 189A Sectional Anatomy

2 unit; 2 hour Lecture

Prerequisite: BIO 4.

Repeatability: May be taken a total of 1 time.

Teaches sectional human anatomy for health care professionals. Emphasis on transverse, coronal, and sagittal planes as related to sonography, computed tomography and magnetic resonance imaging. May be offered in a Distance-Learning Format.

Transfer Credit: Non-transferable.

RT 190A Computed Tomography Physical Principles

3 unit; 3 hours Lecture

Prerequisite: RT 189A and Current ARRT Certification in Radiography

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Provides a basic understanding of the physics underlying the properties and production of computed radiography imaging. Fundamentals include instrumentation and imaging, planar and volumetric postprocessing, radiation protection principles and standards, data acquisition and archiving. Patient factors related to other elements affecting image quality will be explained, as well as artifact production and reduction and image communication. May be offered in a Distance-Learning Format.

Transfer Credit: Non-transferable.

RT 190B Computed Tomography Protocol and Procedures

2 unit; 2 hours Lecture

Prerequisite: RT 190A

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Studies the theory and practice of Computed Tomography (CT), patient care, contrast media administration, radiation safety and dose, protocol and procedures. Prepares the student in part for the national certification examination (ARRT) in Computed Tomography. May be offered in a Distance-Learning Format.

Transfer Credit: Non-transferable.

RT 190C Applied Computed Tomography Clinical Education

6 units; 17.78 hours Laboratory

Prerequisite: RT 190B and must hold current ARRT certification in Radiography. Must complete Clinical Compliance requirements, including a background check and drug testing to be placed in a Cabrillo College affiliated clinic/hospital.

Recommended Preparation: Eligibility for MATH 154.

Repeatability: May be taken a total of 1 time.

Provides clinical application of classroom theory (RT190A and RT190B) in clinical education facilities by arrangement and /or assignment. The student works toward completing the American Registry of Radiologic Technologist (ARRT) clinical experience requirements to obtain eligibility for application for certification and registration in Computed Tomography. May be offered in a Distance-Learning Format.

Transfer Credit: Non-transferable.