



LOMA LINDA  
UNIVERSITY

# Radiation Technology

## School of Allied Health Professions



## Certificate in Medical Dosimetry

### Have You Considered a Career as a Medical Dosimetrist?

To be a medical dosimetrist you must have an aptitude for physics and mathematics and an eye for details and accuracy. Medical dosimetrists plan radiation treatment for external beam and brachytherapy treatment delivery to cancer patients. Dosimetry applies knowledge of mathematics, physics, and the biological and medical sciences to treat cancer. You have to be a team player to work closely with physicists, physicians, radiation therapists, and other hospital personnel.

### Certificate in Medical Dosimetry Program

The Medical Dosimetry program prepares students in the discipline of dosimetry within a radiation oncology environment. The program has two entry tracks. The Radiation Therapist track and B.S. Physics/Math track are both 15-month, full-time programs. This program assists students in preparation for the Medical Dosimetrist Certification Board (MDCB) examination.

### Mission Statement

The mission of the Medical Dosimetry Certificate Program is to prepare professionals in the field of Medical Dosimetry with students receiving broad education and training in all aspects of the profession. This will include critical thinking, clinical competence, effective communication, and professionalism as they apply to the field of Medical Dosimetry. The program encourages intellectual, physical, social, and spiritual development by emphasizing these goals in its curriculum, which are reflected in the mission statement of Loma Linda University Health - "To Make Man Whole."

### Medical Dosimetry Goals and Student Learning Outcomes

The student Learning Outcomes of the Medical dosimetry program are as follows:

1. Student will demonstrate critical thinking by being able to perform hand calculations and construct deliverable treatment plans which achieve maximum target coverage, minimize hot and cold spots, spare critical structures and consider machine and patient limitations. Student will be mindful of planning in accordance with the physician's prescription and will utilize the plan QA checklist as a guide.
2. Student will be clinically competent and will demonstrate competence by being able to calculate MU's for clinical set-ups, being able to understand and use the main features of treatment planning systems, and being able to follow hospital operations, policies, and procedures for all hands-on dosimetry activities.

### Medical Dosimetry Goals and Student Learning Outcomes, cont.

3. Students will be able to communicate effectively and will demonstrate effective verbal and written communication skills.
4. Students will demonstrate professionalism by treating all persons with respect, understanding and abiding by HIPPA rules, and demonstrating responsibility and accountability for actions.
5. The program will achieve the following outcomes: Students will complete the program, take and pass the MDCB examination and secure employment within six months of passing their board examinations. The program aims to maintain an attrition rate of less than 25% overall.

### Clinical Training

For clinical training, each student is assigned to an affiliated medical center. In addition to Loma Linda University Medical Center, we have other clinical affiliates located in the Los Angeles area. Each student is responsible for transportation to the clinical affiliate location.

### Job Demands

The essential functions of a Medical Dosimetrist require certain physical, mental, and emotional attributes. Physical demands include lifting, carrying, bending, manipulation of equipment, patient assistance, walking, and possible prolonged standing. The ability to read written orders, computer screens, graphs, 2-D and 3-D beam dose and models, patient records, and equipment controls is critical. The ability to communicate with patients, physicians, and coworkers is used daily. Mental and emotional demands include critical decision making, managing urgent time sensitive situations, interactions with patients of varying ages, diversity, and health conditions.

### Application Window

The application window is from October 1 to April 1. The program starts each September.

### Accrediting Associations

The American Association of Medical Dosimetrists (AAMD) mandates the concept of formal dosimetry training, which leads to board eligibility for certification in Medical Dosimetry, Certified Medical Dosimetrist (CMD). This qualification is considered to be the “gold standard” in the dosimetry profession. The program is accredited with the Joint Review Committee on Education in Radiologic Technology (JRCERT).

### Program Design

Both tracks are five quarters in length. Instruction combines lectures, labs, and clinical work. Students are exposed to different modalities within dosimetry including working with x-ray therapy, brachytherapy, and proton therapy. All clinical instruction will be conducted in the Radiation Medicine department at LLUMC. The only exception will be the practicum hours completed at affiliate sites. All didactic courses will be held in LLUH facilities. Program faculty include physicists and dosimetrists experienced in both photon and proton therapy treatment planning.

### Admission Requirements

Admission to this program is dependent on the student fulfilling certain educational requirements, and completing career observation experience.

### Educational Background

Students will either need to have:

- 1) ARRT registration in Radiation Therapy Technology with a Bachelor’s degree in any major. Additional prerequisites: College Algebra and Trigonometry.
- 2) A Bachelor’s degree in Physics or Mathematics from a regionally accredited university. Additional pre-requisites: Anatomy and physiology (no lab needed) and Medical Terminology

\*All course requirements must be met before the start of the program.

### Application Procedure

A new class in Dosimetry begins each Fall. The program is competitive as only two students can be admitted each year. Plan to apply early.

1. Please read the online application instructions carefully. Be sure that your application is complete, including the statement of purpose.
2. Submit three references.
3. Send high school and each college’s transcripts to:  
Admissions Office, School of Allied Health Professions, Loma Linda University, Loma Linda, CA 92350.

### Acceptance Process

All applicants will be interviewed by the selection committee. If you are within a reasonable driving distance, you should plan to arrange for a personal interview. After all applicants have been interviewed, the selection committee for the Medical Dosimetry Program meets to make the final decision. Acceptances are usually decided by the first week of June, and confirmation of each decision is mailed to the respective applicant from the Office of Admissions for the School of Allied Health Professions.

### Financial Information

In addition to tuition, a quarterly charge is made that covers miscellaneous student fees that are not covered as part of tuition. The student should be prepared to be responsible for all tuition fees, living expenses, and transportation costs. Loma Linda University does have excellent financial aid available. The Student Finance office on campus provides information on how to obtain loans and grants. You may begin your financial aid process on October 1. You may begin the loan application process before you have actually been accepted. For financial aid information call: (909) 558-4509.

### Important Program Financial Disclosures can be found at:

**Physics Track:** <http://alliedhealth.llu.edu/sites/alliedhealth.llu.edu/files/docs/disclosures/bs-physics/Gedt.html>

**Radiation Therapist Track:** <http://alliedhealth.llu.edu/sites/alliedhealth.llu.edu/files/docs/disclosures/med-dos/Gedt.html>

**Program Director:** Carol Davis, PsyD, DrPH, RT (T)  
cadavis@llu.edu  
Phone: (909) 558-7368  
Fax: (909) 558-7965

**Clinical Coordinator:** Dolly Kisinger  
dkisinger@llu.edu  
Phone: (909) 558-7369  
Fax: (909) 558-7965

<http://www.llu.edu/allied-health/sahp/radtech/dosimetry.page?>

updated 02/16/21



LOMA LINDA  
UNIVERSITY

## LLU at a Glance

>> Founded in 1905 >> A Seventh-day Adventist institution integrating health, science, and Christian faith >> Offers over 200 programs in the health sciences >> Houses eight schools: Allied Health Professions, Behavioral Health, Dentistry, Medicine, Nursing, Pharmacy, Public Health, and Religion >> About 4,000 students >> Over 1,300 faculty >> 2,000 professional researchers >> \$46 million dollars in private and public grants generated each year >> Many service learning opportunities

Loma Linda University  
Loma Linda, California 92350  
909.558.4931  
Website: [www.llu.edu](http://www.llu.edu)  
[www.facebook.com/llualliedhealth](http://www.facebook.com/llualliedhealth)