

## 680J Radiation Oncology

**Course Description:**

The principal objective is to provide a clinical experience in Radiation Oncology with the evaluation and treatment of cancer patients. A secondary goal is to acquaint the student with the methodologies of modern cancer therapy. Emphasis will be on the concepts, methods, and principles of radiation therapy; both external beam (teletherapy) and internal (brachytherapy). Opportunities to participate in clinical or laboratory research are available.

**Department:** Radiation Oncology

**Prerequisites:** Minimum final year of medical school status.

**Restrictions:** Extramural students must be in the final year of undergraduate medical education.

**Elective Director:** Steven Seyedin, MD, UC Irvine Medical Center, Department of Radiation Oncology, 101 The City Drive, South, Room 132, Orange, CA 92868 (714) 456-8091, [sseyedin@hs.uci.edu](mailto:sseyedin@hs.uci.edu).

**Site Coordinator:** Liz Won, Interim Residency Coordinator, UC Irvine Medical Center, Department of Radiation Oncology, 101 The City Drive, South, B-23, Rt-26, Orange, CA 92868 (714) 456- 80844 [ewon1@hs.uci.edu](mailto:ewon1@hs.uci.edu)

**Instructing Faculty:** Dr. Seyedin, Dr. Chen, Dr. Kuo, Dr. Healy, Dr. Simon

**Course Website:** [none](#)

**Who to Report to First Day:** Dr. Seyedin, education coordinator Ms. Jill Su, or resident on UCI rotation. **Location to Report on First Day:** Department of Radiation Oncology, 1st Floor, Chao Family Comprehensive Cancer Center, UCI Medical Center, Orange, CA 92868

**Time to Report on First Day:** 8:00 AM - Students must report with a white coat and identification badge. We recommend you check in with us ahead of the rotation in case there are special procedures scheduled early on the first day.

**Site:** Chao Family Comprehensive Cancer Center – UCI Medical Center

**Periods Available:** Throughout the year.

**Duration:** Two-12 weeks

**Number of Students:** Two maximum

**Scheduling Coordinator:** UCI students please email: [comsched@uci.edu](mailto:comsched@uci.edu) or call (714) 456- 8462 to make a scheduling appointment.

Extramural students enrolled at a U.S. LCME medical school must use VSAS to apply. To apply please refer to the [Visiting Student Learning Opportunities website](#).

**Course Objectives:** At the end of this rotation the student will be:

- Acquainted with the role of radiation therapy in the management of malignant diseases.

**Key Topics:**

- Oncology
- Basic technologies of radiation therapy
- Definitions of radiation therapy
- Oncologic applications of ionizing radiation

**Competencies:**

The School of Medicine requires attainment of four Core Competencies. For the rotation, the program specific objectives are:

- Knowledge
  - Knowledge of the major definitions and principles of radiation oncology
  - Knowledge of basic principles of oncology
  - Knowledge of the relevant literature or evidence base for cases seen
- Skill
  - The ability to conduct a medical interview and to perform an appropriately detailed physical examination
  - The ability to articulate a cogent, accurate assessment and plan
  - The ability to work effectively and compassionately with patients and their families
  - The ability to execute assigned duties
  - The ability to conduct a literature search and present the findings to the team
  - The ability to function effectively within the context of complexity and uncertainty in health care and medical education
- Altruism
  - Honesty and integrity reflecting the standards of the profession in one's conduct with colleagues, patients, families, and professional organizations

- Sensitivity and awareness of diverse cultures, health beliefs, and social factors
- Duty (accountability)
  - A commitment to improving one's knowledge and skills
  - A commitment to patient care and to the community
  - A commitment to personal well being

**Attitudes and Commitments:** See the Core Competencies

**Educational Activities:** Student will attend several weekly Tumor Boards, Multi-disciplinary Tumor Boards, and departmental conferences.

**What Students Should do to Prepare for the Rotation:** Reading on basic principles of oncology will be helpful.

**Clinical Responsibilities of the Student:** Perform thorough histories and physicals; write up findings; follow up on assigned patients.

**Patient Care Responsibilities:** Not Stated

**Call Schedule of the Student:** None

**Procedures to be Learned by the Student:** Not Stated

**Percentage of Time Student will Participate in Ambulatory Setting:** Approximately 75% in clinic, 20% in radiation treatment planning or conferences, 5% in lectures.

**Conference/Lecture/Small Group Sessions:** contact Site Coordinator

**Course Hours Weekly Summary:** Not Stated

**Content Theme Integration:**

- Communications
- Decision making
- Technology and medicine
- Palliative Care
- Health education

Recommended Reading:

Selected Reading:

[Radiation oncology: a primer for medical student](#)

[Introduction to Radiation Oncology](#): 50 slide talk about how radiation works including its delivery, dose and fractionation.

ASTRO Radiation therapy guidelines by site

- [Pancreas](#) (2019)
- Breast
  - [Whole breast](#)

- [Margins breast conservation therapy for DCIS](#)
- [APBI](#)
- [Post-mastectomy RT](#)
- Prostate
  - [Adjuvant vs Salvage RT](#): although slightly outdated with recent data from 2020
  - [Hypofractionated RT](#) for localized prostate cancer (2018):
- [Rectal](#) (2020)
- [Cervical](#) (2020)
- [Oropharyngeal](#) (2017)
- Thoracic
  - [Small cell lung cancer](#) (2020)
  - [SBRT for Early stage](#) NSCLC (2017)
- [Definitive and post-op RT for Basal and SqCC of the Skin](#) (2019)

Entire Guidelines website: <https://www.astro.org/Patient-Care-and-Research/Clinical-Practice-Statements/Clinical-Practice-Guidelines>

Optional resources for those going into Radiation Oncology:

[ASTRO Medical Student Resources](#): Here you can learn more about radiation oncology as a field, how to find a mentor, and virtual RO rotations

[ASTRO membership](#): Membership to ASTRO is FREE for medical students

[eContour](#): make a free account and examine sample contour designs by disease site

[theMednet](#): online forum of oncologists where more advanced questions are posed and answered by fellow oncologists. Great discussion threads

[Essentials of Clinical Radiation Oncology](#) (2017) by Cleveland Clinic: Great for learning the work-up and staging of various cancers. Detailed explanation of seminal papers and their significance.

[Absolute Clinical Radiation Oncology Review](#) (2019): Details disease work-up, imaging, dose constraints, literature for almost every site. A more superficial view than Essentials of Clinical RO but handy to develop a broader view of disease treatment. Beautiful anatomy illustrations as well.

[Handbook of Treatment Planning in Radiation Oncology](#) (2020) by Cleveland Clinic: This is a little more advanced and probably something you'd start using your PGY-2 year but it goes into radiation design (specifically field placement and treatment plan evaluation).

[ARROCases](#): A members of the Association of Resident in Radiation Oncology (ARRO, residents make a mini-case presentation about something they encountered in clinic along with detailed explanations of work-up, treatment, and evidence-based literature. These are published on the ARRO website for other residents to learn.

- Edward C. Halperin, Carlos A Perez, Luther W. Brady, David E. Wazer, Carolyn Freeman, eds. Perez and Brady's Principles and Practice of Radiation Oncology, 6th Ed. Lippincott Williams and Wilkins (2013).

- Leonard L. Gunderson and Joel E. Tepper. Clinical Radiation Oncology, 4th Ed. Elsevier (2015).
- Eric K. Hansen and Mack Roach, II, ed. Handbook of Evidence Based Radiation Oncology. Springer (2017).

**Official Grading Policy:**

The student will receive a grade of Honors, Pass or Fail. Please note that **the UCI School of Medicine wants <15% of clerkship grades to be Honors**. The UCI student's final grade will be submitted on the standard UC Irvine elective form and extramural students will need to submit their school's evaluation form to the course director. The student will be evaluated by faculty and residents in the areas of:

- Interest, attendance, and participation
- Quality of presentations of H&Ps in clinic and in teaching rounds
- Presentation of a selected topic.

Written evaluation by supervising physician(s). If the student fails the elective a grade of "F" will be permanently recorded on his/her transcript. The student can repeat the course for a second grade; however, the "F" will not be removed from the transcript. Written evaluation by supervising physician.