

MASTER SYLLABUS

COURSE NUMBER AND TITLE:

RAD 370-3 Techniques and Applications of Radiation Therapy

COURSE DEFINITION:

Includes a study of the technical aspects of Radiation Therapy, including dosimetry, shielding, radioactive sources, and methodology. Lecture and laboratory format.

COURSE OBJECTIVES:

1. Demonstrate an understanding of the technical functions necessary to accurately administer high-energy x-rays for therapeutic purposes.
2. Demonstrate an understanding of accelerator and simulator mechanical operation, assurance of the safety of patients and other personnel, quality control, and maintenance of treatment records.
3. Demonstrate an understanding of all technical functions associated with simulation procedures.
4. Demonstrate an understanding of treatment techniques and anatomic relationships (including immobilization devices and beam modifying devices).
5. Demonstrate an understanding for the typical treatment doses for a given anatomical location.

COURSE OUTLINE:

PERCENTAGE:

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| 1. Quality assurance procedures and assessment. | 10% |
| 2. Treatment volume localization. | 25% |
| 3. Treatment accessories. | 5% |
| 4. Linear Accelerator set up procedures. | 20% |
| 5. Simulation set up procedures. | 20% |
| 6. Verification imaging. | 20% |

MEANS OF STUDENT EVALUATION:

Grading Scale

- 93 - 100 = A
85 - 92 = B
77 - 84 = C
70 - 76 = D
0 - 69 = F

PREREQUISITES: Instructor approval.

TEXTBOOKS:

Required

1. Washington, C. M., & Leaver, D. T. (2015). Principles and Practices of Radiation Therapy (4th Ed). St. Louis, MO: Mosby.
2. Rad. 370 PowerPoint Booklet.

Recommended

1. Weir, J., Abrahams, P.H., Spratt, J.D., Salkowski, L.R. (2010). Imaging Atlas of Human Anatomy (4th Ed). St. Louis, MO: Elsevier Science/Mosby

LABORATORY PARTICIPATION

There is a laboratory requirement to this class. It will consist of one hour a week with time to be determined. Each laboratory missed will reduce the final grade by one percent.