BACHELOR OF SCIENCE IN **RADIATION THERAPY**

OVERVIEW

Radiation therapy is a clinical treatment where ionizing radiation is used to treat and cure patients. Radiation therapy is useful in the treatment of localized tumors and can provide long-term local control with preservation of regional function. The goal of radiation therapy is to deliver a measured dose of radiation, resulting in eradication of the tumor where radiation is generally given in divided doses or fractionated to treat the patients.

The Bachelor of Science program in Radiation Therapy offers a course of study that will prepare students for careers as Radiation Therapists. Majors will gain a strong background in the concepts of modern biology with a particular concentration in anatomy and physiology, biochemistry, and immunology. This background is further strengthened by courses in chemistry, physics, computer science, and mathematics.

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PROGRAM OPTIONS

Students can choose from two program options:

Students may elect to follow the paradigm for the four-year program for the B.S. in Radiation Therapy in which the first three years of classes are taken at Lewis University and the final year of classes and clinical rotations to be administered at Northwestern Memorial Hospital (NMH). Admission to the final year of the program is based upon successful application to the program at NMH in the second semester of the junior year. Student applicants are considered and evaluated solely by the faculty and staff at NMH; admission to the program at NMH is not guaranteed.

Students may also double major in Biology and Radiation Therapy. This would take five years with the first four years spent taking classes at Lewis University and the last year at Northwestern Memorial Hospital. Students would apply for the Radiation Therapy program in the spring of their fourth year with the understanding that Northwestern Memorial Hospital determines acceptance into this program.

CAREER OPPORTUNITIES

- The U.S. Department of Labor projects that jobs in the healthcare field will grow by 31 percent by 2005.
- As the 78 million baby boomers approach 65, the demands on hospitals and their staffing needs, particularly, is going to rise dramatically.
- New radiation therapists have their pick of positions and locations; the future for radiation therapists is very bright.
- Hospitals are the largest employer of radiation therapists, but an increase in the demand for outpatient services will open up many new jobs in physician's offices and outpatient radiology centers according to the Department of Labor.

ADDITIONAL WEB SITES FOR FURTHER INFORMATION

American Registry of Radiologic Technologists - *www.arrt.org*

American Society of Radiologic Technologists - *www.asrt.org*

Center for Diagnostic Imaging - *www.cdiradiology.com*

Illinois State Society of Radiologic Technologists - *www.issrt.org*

Lewis University - *www.lewisu.edu*

BACHELOR OF SCIENCE/ RADIATION THERAPY

Total Credit Hours: 140
Major Credit Hours: 97

A grade of C or better must be earned in a prerequisite course in order to advance to the next course in the sequence.

Diagnostic Medical Sonography majors may take a Biology class only two times. If a student has not achieved a minimum of a C after the second attempt, the student may not repeat the class.

The Biology Department will award 3 hours of credit for our general education class 02-100 (Introduction to Biology) when students have received a score of 4 or 5 on AP tests. We do not award any credit for major classes based on AP scores.

I. Core Courses (96)

02-110 General Biology I (4) and (02-111) Lab (1)
02-115 General Biology II (4) and (02-116) Lab (1)
02-220 Genetics (4) and (02-221) Lab (1)
02-224 Microbiology (4) and (02-226) Lab (1)
02-355 Biochemistry I - Molecular Biochemistry (3) and (02-356) Lab (1)
02-335 Advanced Human Anatomy and Physiology (3)
02-336 Case Studies in Advanced Human Anatomy and Physiology (1)
02-331 Principles and Practice of Radiation Therapy I (3)
02-333 Pathology/Sectional Anatomy (2)
02-334 Radiation Physics (2)
02-337 Clinical Practicum I (3)
02-339 Medical Imaging and Processing (2)
02-340 Management and Methods of Patient Care I (2)
02-342 Radiation Safety and Protection (2)
02-426 Immunology (3)
02-431 Principles and Practice of Radiation Therapy II (3)
02-432 Treatment Planning (2)
02-433 Radiation Therapy Physics (2)
02-434 Quality Management (2)
02-436 Operational Issues in Radiation Therapy (2)
02-437 Clinical Practicum II (3)
02-440 Management and Methods of Patient Care I (2)
02-452 Radiation Biology (2)
02-494 Research Methods in Allied Health (2)
03-110 General Chemistry I (4) and (03-111) Lab (1)
03-115 General Chemistry II (4) and (03-116) Lab (1)
03-220 Organic Chemistry I (4) and (03-221) Lab (1)
03-225 Organic Chemistry II (4) and (03-226) Lab (1)
13-200 Calculus I (4)
17-200 College Physics I (4) and (17-201) Lab (1)

II. The advanced writing requirement of the General Education curriculum is satisfied by the successful completion of the following courses that contain strong writing components: General Biology Labs I and II, Microbiology Lab, and Research Methods.

III. Select one of the following (1):

02-380 Biochemistry Journal Club (1)
02-381 Physiology Journal Club (1)
02-382 Microbiology Journal Club (1)
02-384 Genetics Journal Club (1)

SAMPLE PARADIGM FOR B.S. IN RADIATION THERAPY

FRESHMAN YEAR

First Semester (18 hours)
General Biology I (4) and Lab (1)
General Chemistry I (4) and Lab (1)
Math Analysis or Calculus I (4)
Gen Ed (3)
Introduction to College Experience (1)

Second Semester (16 or 17 hours)
General Biology II (4) and Lab (1)
General Chemistry II (4) and Lab (1)
Calculus 1 (4) OR Gen Ed (3)
Gen Ed (3)

SOPHOMORE YEAR

First Semester (16 hours)
Genetics (4) and Lab (1)
Organic Chemistry I (4) and Lab (1)
Gen Ed (3)
Gen Ed (3)

Second Semester (17 hours)
Microbiology (4) and Lab (1)
Organic Chemistry II (4) and Lab (1)
Journal Club (1)
Gen Ed (3)
Gen Ed (3)

JUNIOR YEAR

First Semester (18 hours)
Biochemistry I (3) and Lab (1)
College Physics I (4) and Lab (1)
Gen Ed (3)
Gen Ed (3)
Gen Ed (3)

Second Semester (18 hours)
Advanced Human Anatomy and Physiology (3)
Case Studies (1)
Immunology (3)
Gen Ed (3)
Gen Ed (3)
Gen Ed (3)
Research Methods in Allied Health (2)

SENIOR YEAR
(At Northwestern Memorial Hospital)

First Semester (16 hours)
Clinical Practicum I (3)
Pathology/Sectional Anatomy (2)
Radiation Safety and Protection (2)
Principles and Practice of Radiation Therapy I (3)
Medical Imaging and Processing (2)
Management and Methods of Patient Care I (2)
Radiation Physics (2)

Second Semester (18 hours)
Clinical Practicum II (3)
Treatment Planning (2)
Quality Management (2)
Radiation Therapy Physics (2)
Principles and Practices of Radiation Therapy II (3)
Operational Issues in Radiation Therapy (2)
Management and Methods of Patient Care II (2)
Radiation Biology (2)

**This paradigm requires that students take 1-2 general education requirements during summer sessions.*

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Visit *www.lewisu.edu* for more information.