RADIOLOGIC SCIENCE MAJOR, B.S.

Contact Information
Division of Radiologic Science
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The School of Medicine's radiologic science program is designed to prepare individuals for professional practice and associated responsibilities in the health specialty of medical imaging. Graduates provide patient assessment and care required for medical imaging procedures in addition to insuring that the highest quality imaging study is completed with the patient’s radiation dose as a factor. In addition to diagnostic radiology, students may select other imaging modalities and practice areas for additional competence and training. These other areas include pediatrics, mammography, computed tomography, magnetic resonance imaging, vascular interventional radiology, and cardiac catheterization laboratory. The curriculum includes course discussions and projects on global health imaging issues and the potential for international experiences in medical imaging departments and programs abroad.

Admission (http://catalog.unc.edu/undergraduate/departments/division-radiologic-science) to the program is required.

Mission
The radiologic science program prepares students to practice competently and effectively as medical imaging professionals in diverse healthcare environments with awareness of global health issues. The academic and clinical foundation in the curriculum develops graduates with professional flexibility and adaptability to assume prominent roles and responsibilities after graduation in both career and scholarly pursuits.

Program Goals
• Develop competent, effective, medical imaging professionals
• Support development of skills necessary to practice in diverse healthcare environments and to acquire prominent roles in radiologic science
• Program curriculum, teaching methods, and philosophy promote development of integrative, critical thinking, and communication skills to include written, oral, and electronic discourse
• Graduates successfully pursue scholarly activities such as contributions to the profession and post-baccalaureate education
• Encourage global awareness of cultural and health care perspectives

Student Learning Outcomes
Upon completion of the radiological sciences (B.S.) program, students should be able to complete the following goals and outcomes.

(Goal one) Obtain a level of clinical competence appropriate for an entry-level medical imaging professional.

Outcomes:
• Students will demonstrate accurate patient positioning techniques.
• Students will utilize radiographic exposure factors to optimize image quality and minimize patient dose.
• Students will practice radiation protection principles for patient and occupational safety.

(Goal two) Possess critical thinking skills to adapt to changing clinical environments and patient needs.

Outcomes:
• Students will adapt procedures based on patient needs and clinical situation limitations.
• Students will analyze images to assure diagnostic quality.

(Goal three) Exhibit professionalism through consistent, responsible, and ethical behavior.

Outcomes:
• Students will provide nondiscriminatory care for all patients.
• Students will demonstrate adherence to program policies and procedures.

(Goal four) Demonstrate effective communication skills.

Outcomes:
• Students will practice effective oral communication skills in the classroom and in the clinical setting.
• Students will demonstrate effective written communication skills.

Requirements
In addition to the program requirements, students must
• attain a final cumulative GPA of at least 2.0
• complete a minimum of 45 academic credit hours earned from UNC–Chapel Hill courses
• take at least half of their major course requirements (courses and credit hours) at UNC–Chapel Hill
• earn a minimum of 18 hours of C or better in the major core requirements (some majors require 21 hours).

For more information, please consult the degree requirements section of the catalog (http://catalog.unc.edu/undergraduate/general-education-curriculum-degree-requirements/#degree-requirementstext).

The schedule of academic work for radiologic science (medical imaging) majors includes the following General Education requirements. Students must complete all Foundations and Approaches requirements and take at least five Connections courses, including global issues, experiential education, and U.S. diversity. In addition, the following specific requirements apply to students in the General College:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>MATH 130</td>
<td>Precalculus Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>MATH 231</td>
<td>Calculus of Functions of One Variable</td>
<td>1.1H</td>
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</tbody>
</table>

Six courses in the physical and life sciences
Radiologic Science Major, B.S.

BIOL 101 Principles of Biology 4
& 101L and Introductory Biology Laboratory H
BIOL 252 Fundamentals of Human Anatomy and Physiology 4
& 252L and Fundamentals of Human Anatomy and Physiology Laboratory
CHEM 101 General Descriptive Chemistry I 4
& 101L and Quantitative Chemistry Laboratory I
or BIOC 107 Introduction to Biochemistry
Select one option: 8
PHYS 104 General Physics I
& PHYS 105 and General Physics II
PHYS 114 General Physics I: For Students of the Life Sciences
or PHYS 115 General Physics II: For Students of the Life Sciences
PSYC 101 General Psychology 3
Total Hours 26-27

H Honors version available. An honors course fulfills the same requirements as the nonhonors version of that course. Enrollment and GPA restrictions may apply.

1 MATH 231 is a prerequisite for PHYS 114 (see above). If By-Examination (BE) or transfer credit is awarded for PHYS 104 and PHYS 105, then MATH 130 may be used for the Foundations quantitative reasoning requirement. If students plan to take PHYS 114 at UNC–Chapel Hill, then MATH 231 is required for the Foundations quantitative reasoning requirement.

After admission (http://catalog.unc.edu/undergraduate/departments/division-radiologic-science) to the program, the curriculum in radiologic science includes courses in gross anatomy, pathophysiology, radiography, imaging methods, research, practice issues, and clinical practice. The first year of the program provides the foundation and skills for clinical practice and patient care in diagnostic radiography. The second year of the program builds on this foundation and enhances skills for career and practice advancement through communications, physics, and research. During the second year, the student elects areas of clinical concentration, such as magnetic resonance imaging, computed tomography, advanced diagnostic imaging, cardiac catheterization, and vascular/interventional imaging.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>Summer Session II (Junior Year)</td>
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<tr>
<td>AHSC 440</td>
<td>GROSS ANAT FOR AHS</td>
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<td>RADI 442</td>
<td>Introduction to Radiologic Science</td>
<td>3</td>
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<tr>
<td>Junior Year Fall Semester</td>
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<tr>
<td>RADI 461</td>
<td>Radiography I</td>
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<tr>
<td>RADI 462</td>
<td>Radiographic Imaging I</td>
<td>4</td>
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<td>RADI 463</td>
<td>Clinical Education I</td>
<td>4</td>
</tr>
<tr>
<td>RADI 660</td>
<td>Pathophysiology</td>
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<td>Junior Year Spring Semester</td>
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<td>RADI 471</td>
<td>Radiography II</td>
<td>3</td>
</tr>
<tr>
<td>RADI 472</td>
<td>Radiographic Imaging II</td>
<td>4</td>
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<tr>
<td>RADI 473</td>
<td>Clinical Education II</td>
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<tr>
<td>RADI 670</td>
<td>Integrated Principles of Radiographic Analysis</td>
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<td>Summer Session I and II (Senior Year)</td>
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<td>RADI 575</td>
<td>Clinical Education IV</td>
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<td>RADI 583</td>
<td>Clinical Education V</td>
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<td>RADI 585</td>
<td>Radiologic Health Physics</td>
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<td>RADI 586</td>
<td>Research in Radiologic Science I</td>
<td>1</td>
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<td>RADI 594</td>
<td>Professional Communications and Interactions</td>
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<td>RADI 694</td>
<td>Clinical Decisions in Radiology</td>
<td>3</td>
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<tr>
<td>Senior Year Fall Semester</td>
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<td>RADI 584</td>
<td>Clinical Education VI</td>
<td>6</td>
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<td>RADI 597</td>
<td>Leadership in Radiologic Science</td>
<td>3</td>
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<tr>
<td>RADI 681</td>
<td>Trends in Medical Imaging Practices Issues in the Radiology Practice Environment</td>
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<tr>
<td>RADI 686</td>
<td>Research in Radiologic Science II</td>
<td>2</td>
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<td>Total Hours</td>
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<td>72</td>
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Special Opportunities in Radiologic Science

Experiential Education
All of the clinical education courses provide students with the opportunity to gain competence and proficiency in all areas of radiologic science practice in a variety of clinical environments.

Undergraduate Awards
Undergraduate students are considered for the Faculty Award for Excellence, the Award for Academic Excellence, and the Tina Robbins Award.

Undergraduate Research
Students complete a two-semester research sequence leading to a project and paper during the senior year of the program and are encouraged to submit the research projects to state and national research competitions.

Certification
Upon graduation, students are eligible to take the national certification examination from the American Registry of Radiologic Technologists in Radiography and in other clinical areas of expertise.

Accreditation
The program leading to the B.S. degree with a major in radiologic science is fully accredited by the Joint Review Committee for Education in Radiologic Technology.

Scholarships and Grants
Students in the Division of Radiologic Science are eligible for Phyllis Ann Canup Pepper Scholarships, the Dr. Jerry Lambiente Loyalty Fund Scholarship, the Rufus "Buddy" Clarke Loyalty Fund Scholarship, and the Jane Cox Hendrix Scholarships.