

CLINICAL RADIATION SCIENCES, BACHELOR OF SCIENCE (B.S.) WITH A CONCENTRATION IN RADIATION THERAPY

The department offers a Bachelor of Science in Clinical Radiation Sciences with the following areas of concentration: diagnostic medical sonography, nuclear medicine technology, radiation therapy and radiography. Upon meeting prerequisites and gaining admission to the program, students complete a three-year, full-time program that includes general education and professional course work. Graduates of the program are eligible for national certification examinations in their respective area of concentration.

Upon completion of one of the concentrations, the graduate is eligible for the relevant national certification examination administered by the American Registry of Radiologic Technologists. Graduates of the nuclear medicine technology concentration also are eligible for the certification examination administered by the Nuclear Medicine Technology Certification Board. Graduates of the diagnostic medical sonography concentration are also eligible for the certification examination administered by the American Registry for Diagnostic Medical Sonography.

Student learning outcomes

Upon completing this program, students will know and know how to do the following:

Program core learning outcomes

- Demonstrate proficiency in performing imaging/therapy procedures
- Demonstrate proper patient care skills
- Practice appropriate methods of patient safety (to include radiation safety as appropriate)
- Demonstrate effective verbal and written communication
- Demonstrate the ability to critically think and problem solve
- Demonstrate professional and ethical behavior

Radiation therapy concentration-specific outcomes

- Demonstrate proficiency in delivering radiation therapy treatments
- Demonstrate proficiency at conduction simulation skills

Special requirements

Students may see prerequisite course work for admission to this program on the pre-health major in clinical radiation sciences (<http://bulletin.vcu.edu/undergraduate/college-humanities-sciences/prehealth-majors/clinical-radiation-sciences/>) page elsewhere in this Bulletin.

English proficiency

All non-native applicants must meet VCU's minimum TOEFL score requirements prior to admission.

Enrolled students must earn a minimum grade of C in the following CLRS courses:

| Course | Title | Hours |
|----------|--|-------|
| CLRS 208 | Foundations of Patient Care | |
| CLRS 232 | Radiation Safety | |
| CLRS 305 | Orientation to Radiation Therapy | |
| CLRS 309 | Oncologic Patient Care | |
| CLRS 314 | Pathology and Treatment Principles I | |
| CLRS 323 | Radiation Therapy, Techniques and Applications | |
| CLRS 341 | Radiation Physics | |
| CLRS 342 | Physics for Radiation Therapy | |
| CLRS 393 | Clinical Education I | |
| CLRS 394 | Clinical Education II | |
| CLRS 395 | Clinical Education III | |
| CLRS 415 | Pathology and Treatment Principles II | |
| CLRS 430 | Radiobiology | |
| CLRS 455 | Quality Management in Radiation Therapy | |
| CLRS 488 | Senior Seminar | |
| CLRS 493 | Clinical Education IV | |
| CLRS 494 | Clinical Education V | |

Degree requirements for Clinical Radiation Sciences, Bachelor of Science (B.S.) with a concentration in radiation therapy

| Course | Title | Hours |
|--|--|-------|
| General education (http://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/) | | |
| Select 30 credits of general education courses in consultation with an adviser. ¹ | | 30 |
| Major requirements | | |
| • Major core requirements | | |
| CLRS 206 | Cross-sectional Anatomy | 2 |
| CLRS 398 | Introduction to Research | 1 |
| CLRS 498 | Senior Project | 2 |
| • Additional major requirements | | |
| ALHP 430 | Overview of Research in the Health Professions | 3 |
| CLRS 203 | Pathophysiology I | 3 |
| CLRS 204 | Pathophysiology II | 3 |
| CLRS 205 | Exploring Radiologic Sciences | 1 |
| CLRS 208 | Foundations of Patient Care | 4 |
| CLRS 232 | Radiation Safety | 2 |
| CLRS 305 | Orientation to Radiation Therapy | 2 |
| CLRS 309 | Oncologic Patient Care | 2 |
| CLRS 314 | Pathology and Treatment Principles I | 4 |
| CLRS 323 | Radiation Therapy, Techniques and Applications | 4 |
| CLRS 341 | Radiation Physics | 2 |
| CLRS 342 | Physics for Radiation Therapy | 3 |
| CLRS 393 | Clinical Education I ² | 2 |
| CLRS 394 | Clinical Education II ² | 2 |
| CLRS 395 | Clinical Education III ² | 3 |

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|---|--|------------|
| CLRS 408 | Introduction to Computed Tomography (CT) | 2 |
| CLRS 412 | Radiation Therapy Treatment Planning | 3 |
| CLRS 415 | Pathology and Treatment Principles II | 4 |
| CLRS 430 | Radiobiology | 2 |
| CLRS 455 | Quality Management in Radiation Therapy | 2 |
| CLRS 488 | Senior Seminar | 3 |
| CLRS 493 | Clinical Education IV ² | 3 |
| CLRS 494 | Clinical Education V ² | 3 |
| Ancillary requirements | | |
| Additional subjects and credits required for admission ³ | | 29 |
| HCMG 300 | Health Care Organization and Services | 3 |
| HPEX 250 | Medical Terminology | 1 |
| STAT 210 | Basic Practice of Statistics | 3 |
| Open electives | | |
| Select any course. | | 7 |
| Total Hours | | 120 |

1

Some course work completed toward admission will also fulfill general education requirements. Admission to the program requires 29 credits.

2

These courses have variable credits. The credits indicated are the most commonly used in the entry-level curriculum.

3

See program page for pre-health major in clinical radiation sciences for a complete list of prerequisite requirements.

The minimum number of credit hours required for this degree is 120.

What follows is a sample plan that meets the prescribed requirements within a four-year course of study at VCU. Please contact your adviser before beginning course work toward a degree.

| | | |
|---|---------------------------------------|--------------|
| Freshman year | | |
| Fall semester | | |
| | | Hours |
| Courses taken toward admission to program | | 15 |
| Term Hours: | | 15 |
| Spring semester | | |
| Courses taken toward admission to program | | 14 |
| Term Hours: | | 14 |
| Sophomore year | | |
| Fall semester | | |
| CLRS 203 | Pathophysiology I | 3 |
| CLRS 205 | Exploring Radiologic Sciences | 1 |
| CLRS 208 | Foundations of Patient Care | 4 |
| HPEX 250 | Medical Terminology | 1 |
| STAT 210 | Basic Practice of Statistics | 3 |
| HCMG 300 | Health Care Organization and Services | 3 |
| Term Hours: | | 15 |
| Spring semester | | |

| | | |
|--------------------------|---|-----------|
| CLRS 204 | Pathophysiology II | 3 |
| CLRS 206 | Cross-sectional Anatomy | 2 |
| CLRS 232 | Radiation Safety | 2 |
| UNIV 200 | Advanced Focused Inquiry: Literacies, Research and Communication (satisfies general education UNIV foundations) | 3 |
| General education course | | 3 |
| Open elective | | 2 |
| Term Hours: | | 15 |

| | | |
|------------------------|----------------------------------|----------|
| Summer semester | | |
| CLRS 305 | Orientation to Radiation Therapy | 2 |
| Term Hours: | | 2 |

| | | |
|----------------------|--|-----------|
| Junior year | | |
| Fall semester | | |
| ALHP 430 | Overview of Research in the Health Professions | 3 |
| CLRS 309 | Oncologic Patient Care | 2 |
| CLRS 323 | Radiation Therapy, Techniques and Applications | 4 |
| CLRS 341 | Radiation Physics | 2 |
| CLRS 393 | Clinical Education I | 2 |
| Open elective | | 2 |
| Term Hours: | | 15 |

| | | |
|--------------------------|--------------------------------------|-----------|
| Spring semester | | |
| CLRS 314 | Pathology and Treatment Principles I | 4 |
| CLRS 342 | Physics for Radiation Therapy | 3 |
| CLRS 394 | Clinical Education II | 2 |
| CLRS 398 | Introduction to Research | 1 |
| General education course | | 4 |
| Term Hours: | | 14 |

| | | |
|------------------------|------------------------|----------|
| Summer semester | | |
| CLRS 395 | Clinical Education III | 3 |
| Term Hours: | | 3 |

| | | |
|----------------------|--|-----------|
| Senior year | | |
| Fall semester | | |
| CLRS 408 | Introduction to Computed Tomography (CT) | 2 |
| CLRS 415 | Pathology and Treatment Principles II | 4 |
| CLRS 455 | Quality Management in Radiation Therapy | 2 |
| CLRS 493 | Clinical Education IV | 3 |
| CLRS 498 | Senior Project | 2 |
| Term Hours: | | 13 |

| | | |
|------------------------|--------------------------------------|------------|
| Spring semester | | |
| CLRS 412 | Radiation Therapy Treatment Planning | 3 |
| CLRS 430 | Radiobiology | 2 |
| CLRS 488 | Senior Seminar | 3 |
| CLRS 494 | Clinical Education V | 3 |
| Open elective | | 3 |
| Term Hours: | | 14 |
| Total Hours: | | 120 |

The minimum number of credit hours required for this degree is 120.