

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

The department offers second modality B.S. degree concentrations for American Registry of Radiologic Technologists-certified radiographers who desire to continue their professional education and concentrate in radiation therapy, nuclear medicine technology or diagnostic medical sonography. Upon meeting admission prerequisites, students complete a five-semester, full-time course of study including didactic, laboratory and clinical education. Graduates are eligible for additional national professional certification examinations.

## 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

### Prerequisites

Course	Title	Hours
	ARRT certification (or eligibility) in radiography <sup>1</sup>	
	Humanities course	3
	English composition course	3
	Social science course	3
	Natural/physical science course	3

1

Must be ARRT certified in radiography within two semesters of enrollment.

### 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 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 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 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 (second modality)

Course	Title	Hours
<b>General education (<a href="https://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/">https://bulletin.vcu.edu/undergraduate/undergraduate-study/general-education-curriculum/</a>)</b>		
Select 30 credits of general education courses in consultation with an adviser. <sup>1</sup>		30
<b>Major requirements</b>		
• 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 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 342	Physics for Radiation Therapy	3
CLRS 393	Clinical Education I <sup>2</sup>	2
CLRS 394	Clinical Education II <sup>2</sup>	2
CLRS 395	Clinical Education III <sup>2</sup>	3
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 <sup>2</sup>	3
CLRS 494	Clinical Education V <sup>2</sup>	3

<b>Ancillary requirements</b>		
ARRT radiation therapy certification (credits applied toward degree)		50
Additional subjects and credits required for admission <sup>3</sup>		12
STAT 210	Basic Practice of Statistics	3
UNIV 200	Advanced Focused Inquiry: Literacies, Research and Communication (satisfies general education UNIV foundations)	3
<b>Total Hours</b>		<b>120</b>

1

Some general education categories will be met with admission requirements. Consult with an adviser to determine remaining categories.

2

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

3

See special requirements section for details of prerequisite courses.

**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.

**Minimum credits from ARRT certification and courses from accredited college or university: 62**

**Junior year**

<b>Fall semester</b>		<b>Hours</b>
ALHP 430	Overview of Research in the Health Professions	3
CLRS 305	Orientation to Radiation Therapy	2
CLRS 309	Oncologic Patient Care	2
CLRS 323	Radiation Therapy, Techniques and Applications	4
CLRS 393	Clinical Education I	2
STAT 210	Basic Practice of Statistics	3
<b>Term Hours:</b>		<b>16</b>

**Spring semester**

CLRS 206	Cross-sectional Anatomy	2
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
UNIV 200	Advanced Focused Inquiry: Literacies, Research and Communication (satisfies general education UNIV foundations)	3
<b>Term Hours:</b>		<b>15</b>

**Summer semester**

CLRS 395	Clinical Education III	3
<b>Term Hours:</b>		<b>3</b>

**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

**Term Hours: 11**

**Total Hours: 58**

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