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

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

Radiography concentration-specific outcome

- Demonstrate proficiency in performing radiographic procedures

Special requirements

Students may see prerequisite course work for admission to this program on the pre-health major in 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:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CLRS 201</td>
<td>Radiographic Imaging and Exposure I</td>
<td>3</td>
</tr>
<tr>
<td>CLRS 208</td>
<td>Foundations of Patient Care</td>
<td>4</td>
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</tbody>
</table>

CLRS 211  Radiographic Procedures I  4
CLRS 212  Radiographic Procedures II  2
CLRS 232  Radiation Safety  2
CLRS 294  Introduction to Clinical Education I  0.5
CLRS 295  Introduction to Clinical Education II  1
CLRS 312  Radiographic Procedures III  2
CLRS 320  Radiographic Imaging and Exposure II  3
CLRS 331  Radiographic Imaging Equipment  3
CLRS 341  Radiation Physics  2
CLRS 393  Clinical Education I  2.5
CLRS 394  Clinical Education II  2
CLRS 395  Clinical Education III  3
CLRS 430  Radiobiology  2
CLRS 488  Senior Seminar  3
CLRS 493  Clinical Education IV  3
CLRS 494  Clinical Education V  3
CLRS 291  Radiographic Imaging and Exposure II Lab  1

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

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<tr>
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<tr>
<td>CLRS 201 &amp; CLRZ 201</td>
<td>Radiographic Imaging and Exposure I &amp; Radiographic Imaging &amp; Exp I Lab</td>
<td>4</td>
</tr>
<tr>
<td>CLRS 203</td>
<td>Pathophysiology I</td>
<td>3</td>
</tr>
<tr>
<td>CLRS 204</td>
<td>Pathophysiology II</td>
<td>3</td>
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<tr>
<td>CLRS 205</td>
<td>Exploring Radiologic Sciences</td>
<td>1</td>
</tr>
<tr>
<td>CLRS 208</td>
<td>Foundations of Patient Care</td>
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</tr>
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</tr>
<tr>
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<td>Radiographic Procedures II</td>
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</tr>
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<td>CLRS 295</td>
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<tr>
<td>CLRS 312</td>
<td>Radiographic Procedures III</td>
<td>2</td>
</tr>
<tr>
<td>CLRS 320</td>
<td>Radiographic Imaging and Exposure II</td>
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<td>CLRS 331</td>
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<td>CLRS 332</td>
<td>Radiographic Pathology</td>
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</tr>
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<td>CLRS 341</td>
<td>Radiation Physics</td>
<td>2</td>
</tr>
<tr>
<td>CLRS 393</td>
<td>Clinical Education I</td>
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</tr>
<tr>
<td>CLRS 394</td>
<td>Clinical Education II</td>
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### Clinical Radiation Sciences, Bachelor of Science (B.S.) with a concentration in radiography

<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tr>
<td>CLRS 395</td>
<td>Clinical Education III</td>
<td>3</td>
</tr>
<tr>
<td>CLRS 408</td>
<td>Introduction to Computed Tomography (CT)</td>
<td>2</td>
</tr>
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<td>CLRS 430</td>
<td>Radiobiology</td>
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<td>CLRS 494</td>
<td>Clinical Education V</td>
<td>3</td>
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### Ancillary requirements

- Additional subjects and credits required for admission: 29
- HCMG 300 Health Care Organization and Services: 3
- HPEX 250 Medical Terminology: 1
- STAT 210 Basic Practice of Statistics: 3
- Electives (300 level or higher): 6
- Open electives: Select any course: 2
- Total Hours: 120

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

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**

- Courses taken toward admission to program: 15
- Total Hours: 15

**Spring semester**

- Courses taken toward admission to program: 14
- Total 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
- UNIV 200 Advanced Focused Inquiry: Literacies, Research and Communication (satisfies general education UNIV foundations): 3
- Total Hours: 15

**Spring semester**

- CLRS 201 Radiographic Imaging and Exposure I
  & CLRS 201 Radiographic Imaging & Exp I Lab: 4
- CLRS 204 Pathophysiology II: 3
- CLRS 211 Radiographic Procedures I: 4

#### Junior year

**Fall semester**

- CLRS 201 Radiographic Imaging and Exposure I
  & CLRS 201 Radiographic Imaging & Exp I Lab: 4
- CLRS 204 Pathophysiology II: 3
- CLRS 211 Radiographic Procedures I: 4

**Summer semester**

- CLRS 212 Radiographic Procedures II: 2
- CLRS 295 Introduction to Clinical Education II: 2
- Total Hours: 3

**Senior year**

**Fall semester**

- ALHP 430 Overview of Research in the Health Professions: 3
- CLRS 206 Cross-sectional Anatomy: 2
- CLRS 312 Radiographic Procedures III: 2
- CLRS 320 Radiographic Imaging and Exposure II: 3
- CLRS 341 Radiation Physics: 2
- CLRS 393 Clinical Education I: 2.5
- General education course: 4
- Total Hours: 14.5

**Spring semester**

- CLRS 331 Radiographic Imaging Equipment: 3
- CLRS 332 Radiographic Pathology: 3
- CLRS 394 Clinical Education II: 2
- CLRS 398 Introduction to Research: 1
- General education course: 4
- Open elective: 2
- Total Hours: 13

**Summer semester**

- CLRS 395 Clinical Education III: 3
- Total Hours: 3

**Senior year**

**Fall semester**

- CLRS 232 Radiation Safety: 2
- CLRS 294 Introduction to Clinical Education I: 0.5
- Total Hours: 13.5

**Spring semester**

- CLRS 312 Radiographic Procedures III: 2
- CLRS 394 Clinical Education II: 2
- hpeX 250 Medical Terminology: 1
- Total Hours: 14

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