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# Medical Imaging

**Co-Directors**: Eric Hall and Kenneth Kinsey

The medical imaging program at Rhode Island College is a joint program in conjunction with the Lifespan School of Medical Imaging. It is a comprehensive four-year program consisting of General Education and cognate courses at Rhode Island College followed by clinical education courses at the School of Medical Imaging.

Clinical education courses are held at Rhode Island Hospital, Hasbro Children’s Hospital, University Orthopedics, The Miriam Hospital, and Rhode Island Medical Imaging. Students who successfully complete the program are eligible to take the appropriate national certification examination.

Students accepted into a medical imaging clinical program are responsible for obtaining certification in cardiopulmonary resuscitation (basic life support for the health care provider) prior to enrolling in clinical courses.

Students **must** consult with their assigned advisor before they will be able to register for courses.

Medical Imaging B.S.

Admission Requirements for Concentrations in Diagnostic Medical Sonography, Magnetic Resonance Imaging, Nuclear Medicine Technology, and Radiography

Concentrators

1. Completion of all required preclinical courses, with a minimum grade of C in each course.

2. A completed application form submitted by the appropriate deadline to the Director of the Medical Imaging Program.

3. A minimum cumulative grade point average of 2.70.

4. An interview with the admissions committee of the Rhode Island Hospital School of Diagnostic Imaging.

Admission Requirements for Concentrations in Certified Medical Imager Management

Prior licensure in Diagnostic Medical Sonography, Magnetic Resonance Imaging, Nuclear Medicine Technology or Radiography.

**Admission Requirements for Concentration in Certified RT Vascular Interventional Radiography**

Prior licensure in Radiography

Retention Requirement for All Concentrations

A minimum grade of C in all required courses.

General Education Requirements for Concentration in Certified RT Computed Tomography

Students must complete the college’s General Education requirements, with the following contingencies:

1. Students will take a required MATH course in the cognates for each program that will satisfy their General Education Mathematics category.

2. Students will receive transfer credit for NS 175, which will fulfill the Natural Science category.

3. Students will receive transfer credit for AQSR 175, which will fulfill the Advanced Quantitative/Scientific Reasoning category.

Course Requirements

CHOOSE concentration A, B, C, D, E, F or G below.

A. Certified RT Computed Tomography

|  |  |  |  |
| --- | --- | --- | --- |
| CTSC 300 | Principles of Computed Tomography | 2 | As needed |
| CTSC 301 | Computed Tomography Physics and Radiation Protection | 2 | As needed |
| CTSC 407 | Sectional Anatomy and Pathology | 2 | As needed |
| CTSC 432 | Computed Tomography Clinical Practice | 8 | As needed |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| COMM 338 | Communication for Health Professionals | 4 | F |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |

Note: MATH 209: Fulfills the mathematics category of General Education.

Radiologic Technology Certification Transfer Credits

|  |  |  |  |
| --- | --- | --- | --- |
| TRANSFER CREDITS |  | 60 |  |

 **Total Credit Hours: 82**

**B. Certified RT Vascular Interventional Radiography**

VIR 300 Principles of Vascular 3 F

 Interventional Radiography

VIR 301 Procedures I 3 F

VIR 303 Clinical Education I 3 F

VIR 302 Procedures II 4 Sp

VIR 304 Clinical Education II 4 Sp

**Cognates**

BIOL 108 General Principles of Biology 4 F, Sp, Su

BIOL 231 Human Anatomy 4 F, Sp, Su

BIOL 335 Human Physiology 4 F, Sp, Su

CHEM 105 General, Organic 4 F, Sp, Su

 and Biology Chem. I

**Radiologic Technology Certification Transfer Credits**

TRANSFER CREDITS 60

 **Total Credit Hours: 101**

C. Certified Medical Imager Management

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 231 | Human Anatomy | 4 | F, Sp, Su |
| BIOL 335 | Human Physiology | 4 | F, Sp, Su |
| BIOL 348 | Microbiology | 4 | F, Sp, Su |
| COMM 338 | Communication for Health Professionals | 4 | F |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |
| MGT 201W | Foundations of Management | 4 | F, Sp, Su |
|  | TWO COURSES in management at the 300-level or above | 6-8 |  |

Note: MATH 209 Fulfills the mathematics category of General Education.

Medical Imager Certification Transfer Credits

|  |  |  |  |
| --- | --- | --- | --- |
| TRANSFER CREDITS |  | 30-60 |  |

Subtotal: 60-92

D. Diagnostic Medical Sonography

|  |  |  |  |
| --- | --- | --- | --- |
| DMS 305 | Foundations of Diagnostic Medical Sonography | 3 | F |
| DMS 306 | Abdominal and Small Parts Sonography | 5 | Sp |
| DMS 308 | Sonographic Principles and Instrumentation | 4 | Sp |
| DMS 309 | Clinical Education I | 3 | Sp |
| DMS 312 | Sonographic Women’s Imaging | 4 | Su |
| DMS 313 | Clinical Education II | 5 | Su |
| DMS 431 | Vascular Technology | 4 | F |
| DMS 432 | Obstetrical Sonography | 4 | F |
| DMS 433 | Clinical Education III | 4 | F |
| DMS 434 | Registry Review | 3 | Sp |
| DMS 435 | Advanced Procedures in DMS | 3 | Sp |
| DMS 436 | Clinical Education IV | 4 | Sp |
| MEDI 201 | Orientation to Medical Imaging | 1 | F, Sp |
| MEDI 203 | Complete Introduction to Medical Imaging | 3 | F |
| MEDI 205 | Medical Terminology in Medical Imaging | 1 | F |
| MEDI 255 | Patient Care in Medical Imaging | 3 | F |
| MEDI 308 | Professional Behavior in Medical Imaging | 3 | F |
| MEDI 463W | Senior Seminar in Medical Imaging | 3 | Sp |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 108 | Basic Principles of Biology | 4 | F, Sp, Su |
| BIOL 231 | Human Anatomy | 4 | F, Sp, Su |
| BIOL 335 | Human Physiology | 4 | F, Sp, Su |
| CHEM 105 | General, Organic and Biological Chemistry I | 4 | F, Sp, Su |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |
| PHYS 110 | Introductory Physics | 4 | Sp, F, Su |

Subtotal: 84

E. Magnetic Resonance Imaging

|  |  |  |  |
| --- | --- | --- | --- |
| MEDI 201 | Orientation to Medical Imaging | 1 | F, Sp |
| MEDI 203 | Complete Introduction to Medical Imaging | 3 | F |
| MEDI 205 | Medical Terminology in Medical Imaging | 1 | F |
| MEDI 255 | Patient Care in Medical Imaging | 3 | F |
| MEDI 308 | Professional Behavior in Medical Imaging | 3 | F |
| MEDI 309 | Sectional Anatomy in Medical Imaging | 3 | F |
| MEDI 410 | Pathology in Medical Imaging | 3 | F |
| MEDI 463W | Senior Seminar in Medical Imaging | 3 | Sp |
| MRI 302 | Foundations of Medical Resonance Imaging | 3 | Sp |
| MRI 303 | Procedures I | 3 | Sp |
| MRI 304 | Physical Principles I | 4 | Sp |
| MRI 305 | Clinical Education I | 3 | Sp |
| MRI 306 | Procedures II | 3 | Su |
| MRI 307 | Clinical Education II | 5 | Su |
| MRI 431 | Physical Principles II | 4 | F |
| MRI 432 | Clinical Education III | 5 | F |
| MRI 433 | Advanced Procedures in Magnetic Resonance Imaging | 3 | Sp |
| MRI 434 | MRI Registry Review | 3 | Sp |
| MRI 435 | Clinical Education IV | 4 | Sp |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 108 | Basic Principles of Biology | 4 | F, Sp, Su |
| BIOL 231 | Human Anatomy | 4 | F, Sp, Su |
| BIOL 335 | Human Physiology | 4 | F, Sp, Su |
| CHEM 105 | General, Organic and Biological Chemistry I | 4 | F, Sp, Su |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |
| PHYS 110 | Introductory Physics | 4 | Sp, F, Su |

Subtotal: 84

F. Nuclear Medicine Technology

|  |  |  |  |
| --- | --- | --- | --- |
| CTSC 300 | Principles of Computed Tomography | 2 | As needed |
| CTSC 301 | Computed Tomography Physics and Radiation Protection | 2 | As needed |
| MEDI 201 | Orientation to Medical Imaging | 1 | F, Sp |
| MEDI 203 | Complete Introduction to Medical Imaging | 3 | F |
| MEDI 205 | Medical Terminology in Medical Imaging | 1 | F |
| MEDI 255 | Patient Care in Medical Imaging | 3 | F |
| MEDI 308 | Professional Behavior in Medical Imaging | 3 | F |
| MEDI 309 | Sectional Anatomy in Medical Imaging | 3 | F |
| MEDI 410 | Pathology in Medical Imaging | 3 | F |
| MEDI 463W | Senior Seminar in Medical Imaging | 3 | Sp |
| NMT 302 | Foundations of Nuclear Medicine Technology | 3 | Sp |
| NMT 303 | Nuclear Medicine Procedures I | 3 | Sp |
| NMT 304 | Radiation Safety and Radiobiology | 3 | Sp |
| NMT 306 | Nuclear Medicine Procedures II and Therapeutics | 3 | Su |
| NMT 336 | Clinical Education I | 3 | Sp |
| NMT 337 | Clinical Education II | 5 | Su |
| NMT 433 | Radiopharmaceuticals in Nuclear Medicine | 3 | F |
| NMT 434 | Radiation Physics and Advanced Instrumentation | 3 | F |
| NMT 435 | Registry Review | 3 | Sp |
| NMT 436 | Clinical Education III | 5 | F |
| NMT 437 | Clinical Education IV | 4 | Sp |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 108 | Basic Principles of Biology | 4 | F, Sp, Su |
| BIOL 231 | Human Anatomy | 4 | F, Sp, Su |
| BIOL 335 | Human Physiology | 4 | F, Sp, Su |
| CHEM 105 | General, Organic and Biological Chemistry I | 4 | F, Sp, Su |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |
| PHYS 110 | Introductory Physics | 4 | Sp, F, Su |

Subtotal: 86

G. Radiography

|  |  |  |  |
| --- | --- | --- | --- |
| MEDI 201 | Orientation to Medical Imaging | 1 | F, Sp |
| MEDI 203 | Complete Introduction to Medical Imaging | 3 | F |
| MEDI 205 | Medical Terminology in Medical Imaging | 1 | F |
| MEDI 255 | Patient Care in Medical Imaging | 3 | F |
| MEDI 308 | Professional Behavior in Medical Imaging | 3 | F |
| MEDI 309 | Sectional Anatomy in Medical Imaging | 3 | F |
| MEDI 410 | Pathology in Medical Imaging | 3 | F |
| MEDI 463W | Senior Seminar in Medical Imaging | 3 | Sp |
| RAD 331 | Foundations of Radiography | 3 | Sp |
| RAD 332 | Radiographic Procedures I | 3 | Sp |
| RAD 333 | Radiographic Procedures II | 3 | Su |
| RAD 334 | Principles of Radiography | 4 | Sp |
| RAD 335 | Radiation Physics | 3 | Su |
| RAD 336 | Clinical Education I | 3 | Sp |
| RAD 338 | Clinical Education II | 5 | Su |
| RAD 432 | Radiobiology | 4 | F |
| RAD 433 | Clinical Education III | 5 | F |
| RAD 434 | Advanced Procedures in Radiography | 3 | Sp |
| RAD 435 | Registry Review | 3 | Sp |
| RAD 436 | Clinical Education IV | 4 | Sp |

Cognates

|  |  |  |  |
| --- | --- | --- | --- |
| BIOL 108 | Basic Principles of Biology | 4 | F, Sp, Su |
| BIOL 231 | Human Anatomy | 4 | F, Sp, Su |
| BIOL 335 | Human Physiology | 4 | F, Sp, Su |
| CHEM 105 | General, Organic and Biological Chemistry I | 4 | F, Sp, Su |
| MATH 209 | Precalculus Mathematics | 4 | F, Sp, Su |
| PHYS 110 | Introductory Physics | 4 | Sp, F, Su |

Subtotal: 87

Courses (goes between THTR and WLED)

VIR – Vascular Interventional Radiography

VIR 300 – Principles of Vascular Interventional Radiography (3)

Students examine the foundations of interventional radiography. Topics include patient interactions and management, image acquisition, supplies, equipment, and devices supporting diagnostic and interventional image guided vascular procedure.

Prerequisite: Acceptance into the Certified RT Vascular Interventional Radiography concentration.

Offered: Fall

VIR 301 –Procedures I (3)

Students will examine the most common vascular interventional procedures, including vascular anatomy and pathology, imaging techniques, equipment, devices used, and image analysis.

Prerequisite: Acceptance into the Certified RT Vascular Interventional Radiography concentration.

Offered: Fall

VIR 302 –Procedures II (4)

Students will examine the less common vascular interventional procedures, including vascular anatomy and pathology, imaging techniques, equipment, devices used, and image analysis.

Prerequisite: VIR 300

Offered: Spring

VIR 303 –Clinical Education I (3)

Students, under direct and indirect supervision, are introduced to clinical skills through observation and participation in VIR procedures. Emphasis is placed on the integration of clinical and didactic education. 8 contact hours.

Prerequisite: Acceptance into the Certified RT Vascular Interventional Radiography concentration.

Offered: Fall

VIR 304 –Clinical Education II (4)

Students, under direct and indirect supervision, are introduced to further clinical skills through observation and participation in VIR procedures. Emphasis is placed on the integration of clinical and didactic education. 8 contact hours.

Prerequisite: VIR 300

Offered: Spring