

# MEDICAL PHYSICS, CERTIFICATE IN (GRADUATE CERTIFICATE)

## Program accreditation

Commission on Accreditation of Medical Physics Educational Programs (<http://campep.org/>)

## Program goals

The graduate Certificate in Medical Physics offers course work in physics as it is applied to the diagnosis and treatment of human diseases. Required course work provides theoretical and practical training in radiation dosimetry, radiation biology, radiation therapy, imaging and health physics. The goal of the program is to provide a career path in medical physics as an alternative to a terminal degree in medical physics. The program is primarily designed for retraining those who possess a doctoral degree in physics or a related field.

The mission of the medical physics graduate certificate program is to serve the Virginia and the nation by helping to meet the demand for competent medical physicists in the health care delivery setting. The program is intended for postdoctoral individuals seeking to enhance their credentials for admission into a medical physics residency position.

## Student learning goals

To develop core competency in medical physics by:

1. Obtaining a medical physics knowledge base
2. Enhancing medical physics-specific problem-solving skills
3. Enhancing clinically relevant communication skills

## Student learning outcomes

1. Demonstrate satisfactory knowledge of the base of scientific information required to practice clinical medical physics
2. Demonstrate the ability to evaluate and integrate such knowledge into the solution of clinically relevant problems as measured by the course work
3. Demonstrate an appropriate level of skill in the identification of clinical medical physics problems and the design and implementation of appropriate problem-solving methods and solutions as measured by course work
4. Demonstrate appropriate written communication skills suitable for practice in clinical medical physics
5. Demonstrate appropriate oral and visual communication skills suitable for practice in clinical medical physics

## VCU Graduate Bulletin, VCU Graduate School and general academic policies and regulations for all graduate students in all graduate programs

The VCU Graduate Bulletin website documents the official admission and academic rules and regulations that govern graduate education for all graduate programs at the university. These policies are established by the graduate faculty of the university through their elected representatives to the University Graduate Council.

It is the responsibility of all graduate students, both on- and off-campus, to be familiar with the VCU Graduate Bulletin as well as the

Graduate School website (<http://www.graduate.vcu.edu/>) and academic regulations in individual school and department publications and on program websites. However, in all cases, the official policies and procedures of the University Graduate Council, as published on the VCU Graduate Bulletin and Graduate School websites, take precedence over individual program policies and guidelines.

Visit the **academic regulations section for additional information on academic regulations for graduate students.** (<http://bulletin.vcu.edu/academic-regs/>)

## Graduation requirements

As graduate students approach the end of their academic programs and the final semester of matriculation, they must make formal application to graduate. No degrees will be conferred until the application to graduate has been finalized.

Graduate students and program directors should refer to the following graduation requirements as published in the Graduate Bulletin for a complete list of instructions and a graduation checklist.

Visit the **academic regulations section for additional information on graduation requirements.** (<http://bulletin.vcu.edu/academic-regs/grad-graduation-info/>)

## Other information

### School of Medicine graduate program policies

The School of Medicine provides policies applicable to all programs administratively housed in the school.

Apply online today. (<https://www.vcu.edu/admissions/apply/graduate/>)

## Admission requirements

Degree:	Semester(s) of entry:	Deadline dates:	Test requirements:
Certificate	Fall	Jan 15	

In addition to the general admission requirements of the VCU Graduate School (<http://bulletin.vcu.edu/graduate/study/admission-graduate-study/admission-requirements/>) and the School of Medicine, students are expected to satisfy the following minimum standards for admission.

1. Students must have a minimum of 30 credit hours in undergraduate physics, physical science or engineering, of which at least 18 credit hours must be from courses higher than introductory level. Background courses should include calculus one and two, linear algebra, differential equations, modern physics, and electricity and magnetism.
2. Applicants must have earned a doctoral degree in physics, engineering or other area of physical science with a minimum GPA of 3.0 on a 4-point scale

## Curriculum requirements

Course	Title	Hours
MEDP 561	Topographical Anatomy and Physiology	1
MEDP 563	Radiological Physics and Radiation Dosimetry	3
MEDP 564	Radiological Physics and Radiation Dosimetry Lab	1

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MEDP 567	Introduction to Radiation Therapy Physics	3
MEDP 601	Health Physics	3
MEDP 630	Radiobiology for the Medical Physicist	3
MEDP 635	Physics of Diagnostic Imaging	3
MEDP 636	Physics of MRI	3
MEDP 637	Physics of Nuclear Medicine	2
MEDP 689	Medical Physics Literature Review	1
OVPR 602	Responsible Scientific Conduct	1
or OVPR 601	Scientific Integrity	
or OVPR 603	Responsible Conduct of Research	
<b>Total Hours</b>		<b>24</b>

**The minimum number of graduate credit hours required for this certificate is 24.**

Students who complete the requirements for this program will receive a Certificate in Medical Physics.

### **Contact**

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### **Additional contact**

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**Program website:** [radonc.vcu.edu/education/graduate-education](http://radonc.vcu.edu/education/graduate-education)  
(<https://radonc.vcu.edu/education/graduate-education/>)