

# MEDICAL DOSIMETRY

FALL 2006

## IS MEDICAL DOSIMETRY THE RIGHT CHOICE FOR YOU?

### What is medical dosimetry?

The field of medical dosimetry involves the calculation of dose and design of radiation field arrangements for the treatment of cancer patients. Dosimetrists use their knowledge of physics, anatomy, and radiobiology to develop an optimal arrangement of radiation portals to spare normal and radiosensitive tissues while applying a prescribed dose to the targeted disease volume.

### What is the role of the medical dosimetrist?

Dosimetrists are knowledgeable about radiation oncology treatment machines and equipment. In collaboration with medical physicists and radiation oncologists, they have the expertise to calculate radiation dosages and generate radiation dose distribution.

Dosimetrists work with advanced treatment planning

software using interactive 3-D graphics to develop an optimal plan of radiation treatment for each individual cancer patient. The dosimetrist is an integral part of the radiation oncology team and, through regular treatment chart review and patient dose measurement, helps to ensure that each patient receives the properly prescribed treatment.

### Where do medical dosimetrists work?

Medical dosimetrists work in cancer treatment centers, community hospitals, free-standing clinics, medical schools, and in the medical industry.

### Is there a demand for medical dosimetrists in the medical field?

According to the U.S. Department of Labor, there are over 800 job openings each year and the field will increase by 22% over the next decade.

### What is the salary range for medical dosimetrists?

A recent nationwide professional survey shows the median salary of medical dosimetrists with 0-4 years experience to be \$67,700 without Board Certification and \$75,600 with Board Certification. In New York, the starting salary range for recent graduates of our program is \$72,000 to \$85,000. Senior people in the field often earn over \$100,000.

### What else should I know?

Since dosimetry relies heavily on physics and knowledge of human anatomy and physiology, a strong background in math and science is necessary.

The Medical Dosimetrist Certification Board administers the certification exam.

For more information, contact the Medical Dosimetrist Certification Board or the Association of Medical Dosimetrists.



*“While a simultaneous glut and shortage of medical physicists may be a paradox of academic interest, its effect on patients is real. Radiation oncologists are often limited in the sophistication of treatments they can prescribe due to unavailable medical physics expertise.”*

- Ivan A. Brezovich, Ph.D., Dept. of Rad. Onc., University of Alabama at Birmingham

## THE POST-GRADUATE DOSIMETRY PROGRAM

### What are the requirements for acceptance to the post-baccalaureate year?

Health Science students apply to the post-baccalaureate year dosimetry program during the fall semester of the senior year. In addition to courses required for the major, **Radiation Oncology/Medical Physics I must be taken during the fall semester of the senior year.**

A G.P.A. of at least 2.5, two college calculus courses, and two college physics courses are required. The recommended physics sequence is Physics 131/132 or Physics 125/126/127 or equivalent. Preference is given to students who have completed MAT 125

or MAT 131 and human anatomy and physiology with a grade of at least C+.

After completing the senior year, graduates are prepared to enter programs for clinical training. Graduates who complete the post-baccalaureate year program are prepared for entry-level clinical radiation therapy and medical dosimetry positions.

In preparation for the post-baccalaureate year, seniors in the major must successfully complete the following courses during the spring semester:

- **Radiation Oncology/Medical Physics II: introduction to medical physics for radiation oncology.**
- **Introduction to Pathology:**

**covers the concept of disease, types of growth, causative factors, and biological behavior of neoplastic diseases. Staging procedures are introduced.**

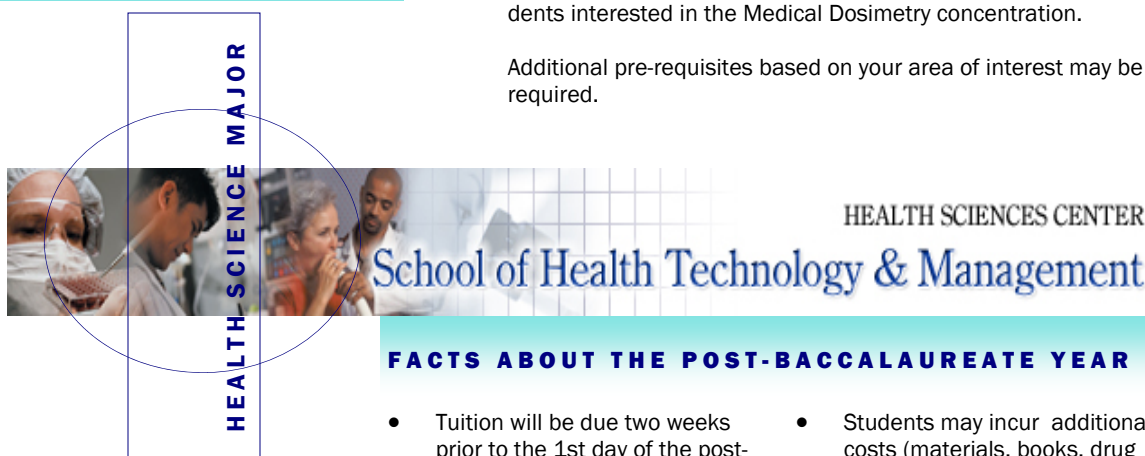
- **Principles and Practice of Radiation Therapy: the practice and technical aspects of radiation therapy. Overview of cancer statistics, epidemiology, etiology, patient education and assessment, and pharmacology and drug administration.**
- **Medical Imaging and Processing: overview of diagnostic imaging modalities and therapeutic procedures; imaging equipment; and recording images on film.**

Advising sessions are conducted on both campuses, as early as possible, to assess student interest and provide information on prerequisites. For additional information about the major please contact:

Traci Thompson—Advising	Régine Verrier—Advising
HSC, Level 2, Room 453	• Mon/Fri, HSC, L2, Rm 453
Phone: 631.444.2407	Phone: 631.444.6858
Fax: 631.444.1515	• Tu/Wed/Thur
	Academic Advising Office
	Melville Library
	Phone: 631.632.4689

**OR VISIT OUR WEBSITE AT:**

[www.uhmc.sunysb.edu/shtm](http://www.uhmc.sunysb.edu/shtm)



**HOW TO BECOME A HEALTH SCIENCE STUDENT**

Students can declare the Health Science major at any time during their academic career. All major courses are taken during the senior year.

- In order to begin your senior year courses in the major, you must have a G.P.A. of at least 2.0 and have successfully completed 91 credits.
- You must also have met all D.E.C. requirements, including at least 16 credits in natural sciences (D.E.C. E), 21 credits of related electives, and 10 upper division credits.
- Successful completion of the following courses during the fall semester of your senior year is required:

**Health Care Issues  
Medical Ethics  
Communications  
Professional Writing  
Health Informatics**

**Radiation Physics in Medicine** (4 credits) is required for students interested in the Medical Dosimetry concentration.

Additional pre-requisites based on your area of interest may be required.

**FOR INFORMATION REGARDING RADIATION SAFETY , PROFESSIONAL INFORMATION, AND JOB LISTING PLEASE VISIT THE FOLLOWING WEB-**

**Professional Organizations**

- Radiation Safety  
[www.radtechstudy.org](http://www.radtechstudy.org)
- Medical Dosimetrist Certification Board  
[www.mdcb.org](http://www.mdcb.org)
- American Association of Medical Dosimetrists  
[www.medicaldosimetry.org](http://www.medicaldosimetry.org)

**Occupational and Employment Information**

- [www.dol.gov](http://www.dol.gov)
- [www.rjobs.com](http://www.rjobs.com)
- [www.comphealth.com](http://www.comphealth.com)
- [www.salary.com](http://www.salary.com)
- [www.salary.monster.com](http://www.salary.monster.com)
- [www.labor.state.ny.us](http://www.labor.state.ny.us)

**FACTS ABOUT THE POST-BACCALAUREATE YEAR**

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| <ul style="list-style-type: none"> <li>• Tuition will be due two weeks prior to the 1st day of the post-baccalaureate program.</li> <li>• Health Assessment Forms must be submitted one month prior to the start of your program.</li> <li>• The student is responsible for transportation during the post-baccalaureate year.</li> <li>• Clinical sites are located anywhere from Manhattan to eastern Long Island.</li> <li>• Financial Aid does not cover tuition for the post-bacc program. You may take out a career loan from various financial institutions.</li> </ul> | <ul style="list-style-type: none"> <li>• Students may incur additional costs (materials, books, drug tests, background checks, etc.) during the post-baccalaureate program.</li> <li>• Campus housing may not be available.</li> <li>• \$40 application fee</li> </ul> <p>Tuition Costs—<br/>\$5,000.00</p> <p>Number of Seats—<br/>5-6</p> |
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