



# **M.S. in Medical Dosimetry Program Handbook**

## **2023-2024**

# Table of Contents

<b>Part I: Program Information</b> .....	<b>5</b>
JRCERT Accreditation .....	5
Mission Statement .....	6
Program Goals .....	6
Program Effectiveness .....	7
Program Administration.....	7
Advisory Committee .....	7
Roles and Responsibilities of Program Staff .....	8
Admission .....	9
Application Deadline.....	9
Technical Standards for Admission .....	9
International Students .....	10
Financials .....	10
Tuition & Fees .....	10
Payments & Refunds.....	10
Financial Aid & Merit-Based Grants .....	10
Academic Calendar.....	10
Course Sequence.....	11
Course Descriptions.....	12
Graduate Academic Standing Policy .....	16
Academic Warning: .....	16
Probation: .....	16
Dismissal: .....	16
Clinical Rotation Assignments.....	16
Overview .....	16
Rotation Track Configuration.....	17
Rotation Assignment Process .....	17
Rotation Assignment Adjustments.....	17
Clinical Sites .....	18
Background Checks, Immunizations and CPR Requirements .....	18
Travel Agreement .....	18
Clinical Site and Preceptor Contacts .....	19
Clinical Preceptor Qualifications & Duties .....	20
Qualifications .....	20
Mandatory Training .....	20
Duties and Responsibilities.....	20
Competency Based Clinical Rotations .....	20
Evaluation of Student Clinical Performance.....	21
Master Competency List - Class of 2024 .....	21
Required Observations.....	22
Grading Scale .....	22
Clinical Rotation Timeframes .....	23
<b>Part II: Clinical Policies and Procedures</b> .....	<b>24</b>

<b>Attendance:</b>	<b>24</b>
Breaks:	24
Medical Dosimetry Internship (Summer)	24
Excused Absences:	24
Unexcused Absences:	25
Punctuality & Clinical Hours	25
Tardiness:	26
Suffolk University Closing or Delayed Opening	26
<b>Reciprocal E-mail/Response Policy:</b>	<b>26</b>
<b>Communication with Clinical Staff:</b>	<b>26</b>
<b>Professional Appearance:</b>	<b>26</b>
Lab Coats	26
Identification	27
Dress Clothes	27
Footwear	27
Grooming:	27
Scrubs Policy:	27
<b>Confidentiality:</b>	<b>28</b>
Accessing Clinical Systems Remotely	28
<b>Professionalism:</b>	<b>28</b>
<b>Artificial Intelligence (AI) and Technology</b>	<b>29</b>
<b>Use of Educational Spaces Policy Including all Clinical Affiliates:</b>	<b>29</b>
Computer Use at Clinical Affiliates:	29
<b>Health &amp; Safety:</b>	<b>30</b>
Patient Safety	30
General Safety	30
Radiation Safety	30
Prior Radiation Exposure	31
Magnetic Resonance Imaging (MRI) Safety	31
Communicable Diseases	31
Occupational Health & Safety Contact Information	32
Covid-19 Policies	32
Immunizations	33
Needle Stick Policy	33
Supervision	34
Pregnancy	34
<b>Grade Grievances &amp; Academic Complaints:</b>	<b>35</b>
<b>Academic Misconduct</b>	<b>35</b>
<b>Liability Insurance:</b>	<b>35</b>
<b>Part Time Employment of Students by Clinical Affiliates:</b>	<b>36</b>
<b>Temporary Remote Clinical Education Policy:</b>	<b>36</b>
Summer Internship	37
JRCERT Policy on Remote Clinical Education	37
Direct Supervision	37
Communication	37
Weekly Journal	37
<b><i>Part III: Suffolk University Policies</i></b>	<b><i>38</i></b>

University Academic Calendar .....	38
Federal Credit Hour Definition .....	38
Personal Counseling Information .....	38
Academic Resources and Student Support.....	38
Office of Disability Services .....	38
University Attendance and Absence Policy Link.....	38
<b><i>APPENDICES</i></b> .....	<b>39</b>
Appendix A- Travel Agreement.....	39
Appendix B- CT Based Competency Evaluation Form.....	40
Appendix C- Clinical Performance Evaluation Form Professionalism- The Affective Domain .....	42
Appendix D- MRI Safety Screening Protocol .....	45
Appendix E- Pregnancy Policy.....	46
Appendix F- Diseases Reportable to Massachusetts Local Boards of Health .....	47
Appendix G- Rhode Island Reportable Diseases & Conditions.....	49



## Part I: Program Information

Suffolk University and its clinical affiliates offer an M.S in Medical Dosimetry for candidates who hold a bachelor's degree from an accredited college or university. Medical dosimetrists are the "architects" of radiation therapy. As integral members of the radiation oncology team, dosimetrists create computerized treatment plans and perform dose calculations for patients undergoing radiation therapy. The treatment plans are designed to deliver a curative dose as prescribed by the radiation oncologist, while limiting exposure to nearby healthy organs.

The program consists of a combination of classroom work and clinical hands-on experience through clinical rotation at our affiliates. All clinical rotations are completed under the supervision of board certified medical dosimetrists and medical physicists and include such advanced treatment techniques as proton therapy and stereotactic radiosurgery. Our clinical affiliates include Brigham and Women's Hospital (Boston, MA), Dana-Farber/Brigham and Women's Cancer Center at Milford Regional Medical Center (Milford, MA), Dana-Farber Brigham Cancer Center, South Shore Hospital (South Weymouth, MA), Massachusetts General Hospital (MGH - Boston, MA), MGH North Shore Cancer Center (Danvers, MA), MGH Newton Wellesley Hospital (Newton, MA), Lahey Hospital & Medical Center (Burlington, MA), and Rhode Island Hospital (Providence, RI). Click [here](#) to access our website.

Upon completion of the program, students will be eligible to sit for the Medical Dosimetrist Certification Board (MDCB) exam. For more information about medical dosimetry and the certification exam, please refer to the following websites:

[American Association of Medical Dosimetrists \(AAMD\)](#)

[Medical Dosimetrists Certification Board \(MDCB\)](#)

[MDCB Applicant Handbook](#)

### JRCERT Accreditation

The Suffolk Medical Dosimetry Program is accredited by  
Joint Review Committee on Education in Radiologic Technology.

20 North Wacker Drive, Suite 2850

Chicago, IL 60606-2850

(312) 704-5300 Email: [mail@jrcert.org](mailto:mail@jrcert.org)

The accreditation award is 8 years with our next site visit scheduled for the fourth quarter of 2023. The JRCERT Standards for Medical Dosimetry can be accessed [here](#). Anyone wishing to report any allegations about the program to the JRCERT may do so by following the procedures listed on their website via [this link](#).

## **Mission Statement**

The mission of the Medical Dosimetry program is to provide students with a rigorous and comprehensive education in the discipline. Students will receive instruction from a multifaceted faculty and in diverse clinical settings in New England. Our students will use the most advanced technologies to develop exceptional clinical skills and research experiences that will prepare them for entry-level positions. Graduates of our program will think critically, communicate effectively, and appreciate the importance of continued education in maintaining their competence. *(Last updated 10/2022)*

## **Program Goals**

### **Goal 1: Students will be clinically competent**

#### **Student Learning Outcomes**

- Students will apply standard treatment planning techniques
- Students will produce treatable plans

### **Goal 2: Students communicate effectively**

#### **Student Learning Outcomes**

- Students will demonstrate effective verbal communication skills
- Students will demonstrate effective written communication skills

### **Goal 3: Students will develop and apply critical thinking skills**

#### **Student Learning Outcomes**

- Students will explain an adequate rationale for treatment plan design
- Students will explore different beam arrangements to suit specific patient geometries
- Students will analyze discrepancies encountered in treatment planning

### **Goal 4: Students will understand the importance of professionalism, growth and development**

#### **Student Learning Outcomes**

- Students will comply with clinical policies and procedures
- Students will exhibit personal growth by continuously demonstrating interest to learn

### **Goal 5: Students will understand the principles of clinical research**

#### **Student Learning Outcomes**

- Students will assess the components of the research process
- Students will plan and conduct a research study

## Program Effectiveness

Program effectiveness data is posted on the program website at [this link](#). This information is also published on the JRCERT website at [this link](#) along with explanations on how the data are calculated.

## Program Administration

The Medical Dosimetry program is part of the Biology Department.

Jacky Nyamwanda, M.S, CMD, CAGS  
Program Director  
Samia Academic Center, 625  
20 Somerset Street  
Boston, MA 02108  
Tel: 617-725-4109  
[jnyamwanda@suffolk.edu](mailto:jnyamwanda@suffolk.edu)

Crystal Stancell, M.S, CMD  
Clinical Coordinator  
Samia Academic Center,  
20 Somerset Street  
Boston, MA 02108  
Tel: 857-880-2447 ext. 2447  
[cstancell@suffolk.edu](mailto:cstancell@suffolk.edu)

Eric Dewar, PhD  
Interim Chair, Biology Department  
Samia Academic Center, Room 729  
20 Somerset Street  
Boston, MA 02108  
Tel: 617-994-6465  
[edewar@suffolk.edu](mailto:edewar@suffolk.edu)

## Advisory Committee

An advisory committee made up of Suffolk faculty and clinical representatives provides program oversight.

Mandar Bhagwat, MS, DABR- Medical Physicist, MGH

Dan Cail, MS, DABR –Director of Network Physics Operations, BWH Milford Maria

Czermanska, MS, DABMP – Head of Treatment Planning, BWH

Eric Dewar, PhD- Interim Chairperson of Biology Department, Suffolk

Eric Klein, PhD, DABR- Chief Physicist, Rhode Island Hospital

Brian Napolitano, MHL, CMD – Director of Medical Dosimetry, MGH

Jacky Nyamwanda, M.S, CMD- Program Director, Suffolk University & MGH

Hugh Prichard, B.S., CMD – Medical Dosimetrist, MGH at North Shore Cancer Center

Prashant Sharma, PhD- Associate Professor of Physics, Suffolk University

Crystal Stancell, M.S, CMD- Clinical Coordinator, Suffolk University

Kathlina Teague, M.S., CMD- Program Alumna, Huntsman Cancer Institute

Miao Zhang, PhD, DABR- Chief Physicist, Lahey Hospital & Medical Center

## **Roles and Responsibilities of Program Staff**

### **Program Director**

1. Assures effective program operations
2. Oversees ongoing program assessment
3. Participates in budget planning
4. Participates in curriculum design, program administration, evaluation, instruction, and academic advising
5. Recruits students and oversees admissions process
6. Maintains current knowledge of the professional discipline and educational methodologies through continuing professional development
7. Assumes the leadership role in the continued development of the program

### **Clinical Coordinator**

1. Correlates clinical education with didactic education
2. Evaluates students and participates in didactic and/or clinical instruction
3. Coordinates clinical education and evaluates its effectiveness
4. Participates in the assessment process
5. Conducts periodic review and revision of clinical course materials
6. Participates in curriculum development, supervision, instruction, evaluation, and academic advising
7. Maintains current knowledge of program policies, procedures, and student progress

### **Part Time Didactic Program Faculty**

1. Prepares and maintains course outlines and objectives
2. Instructs and evaluates students, and reports progress
3. Participates in the assessment process, when appropriate
4. Cooperates with the program director in periodic review and revision of course materials
5. Maintains appropriate expertise and competence through continuing professional development



## Admission

Applicants must hold a bachelor's degree and have a minimum GPA of 3.0 on a 4.0 scale to be considered for admission. In addition, the following prerequisite courses must be completed with grade of C or higher before enrolling.

Calculus I  
Physics I & II with labs

Anatomy & Physiology I & II with labs  
Biology

## Application Deadline

Admission is for fall semester only with completed applications due Jan 15<sup>th</sup>. Applications received after Jan 15<sup>th</sup> will be reviewed on a rolling, space available basis. No applications will be accepted after April 1<sup>st</sup>. For application requirements, please visit the [Suffolk Medical Dosimetry Program website](#). To apply to the program, please visit the [Graduate Admission website](#).

## Technical Standards for Admission

The Medical Dosimetry program has established the following technical standards for all students enrolled in the program. These technical standards conform to the professional and technical standards, tasks, and skills required for the safe and ethical treatment of patients. Since these skills are required throughout the entire clinical portion of the program, it is mandatory that all students meet these standards prior to admittance into the program.

Each student must be able to demonstrate the ability to:

1. Use a computer and a mouse and endure an 8–10-hour clinical day consisting of a minimum of 6-8 hours sitting in front of a computer, typically in low light situations.
2. Comprehend complex three-dimensional spatial relationships for treatment planning and delivery.
3. Communicate clearly and concisely both verbally and in written form to fellow staff and patients.
4. Read and apply appropriate information and instructions (treatment charts, patient images, equipment manuals, medical records).
5. Assist with safe transfer patients from wheelchairs and/stretchers onto and off treatment tables.
6. Move a standard wheelchair or stretcher from the waiting area to the treatment room and back.
7. Understand and apply written and verbal clinical instructions given by departmental personnel.
8. Detect audible alarms and background sounds from equipment during treatment planning and delivery.
9. Endure a maximum of 3 hours of didactic instruction in a normal classroom setting.

10. Demonstrate the ability to safely lift and slide maximum of 30 pounds over your head.
11. Safely position beam shaping equipment, immobilization and beam modifying devices.

### **International Students**

International students are eligible to apply to the program based on F-1 visa.

Clinical rotations are unpaid and performed for course credit. Curricular Practical Training (CPT) is not a requirement for clinical rotations. Additional admissions requirements for international students can be found on the [Graduate Admissions International Applicants web page](#).

### **Financials**

#### **Tuition & Fees**

Graduate tuition and fees are available on the [Student Account Services website](#). *Note that program cost per semester is calculated by multiplying the per-credit cost by the total number of credits required.* The first semester is worth 16 credits while other semesters are worth 12. The summer internship is worth 3 credits.

#### **Payments & Refunds**

Information about payments and refunds can be accessed via the Student Account Services website using [this link](#).

#### **Financial Aid & Merit-Based Grants**

Our Graduate Admissions Office provides information about financial aid options including merit-based tuition grants via [this link](#).

Students may also apply for scholarships and outside funding from external organizations such as those listed below. Please explore these websites and contact the organizations directly if you have questions about the application process, deadlines and eligibility criteria.

[American Society of Radiologic Technologists Foundation \(ASRT\)](#)

[American Association of Medical Dosimetrists \(AAMD\) Education & Research Foundation](#)

[American Association of University Women \(AAUW\)](#)

### **Academic Calendar**

The university academic calendar can be accessed [here](#).

## Course Sequence

### Year 1 Fall: Leveling Semester

*\*\*some/all leveling courses may be waived for students with a background in Radiation Therapy\*\**

Course	Title	Credits
RAD 206	Introduction to Radiation Oncology	4
RAD 315	Radiation Physics I	3
RAD L315	Radiation Physics I Lab	1
RAD 423	Rad Onc Cross Sectional Anatomy	2
RAD 427	Rad Onc Imaging Systems	2
RAD 428	Pathophysiology	4

### Year 1 Spring

Course	Title	Credits
MDO 615	Treatment Planning I	3
MDO L615	Treatment Planning I Lab	1
MDO 710	Medical Dosimetry Practicum I	3
MDO 711	Radiobiology for the Medical Dosimetrist	2
MDO 712	Computing & Networking	1
MDO 713	Protocols & Operational Issues	2

### Summer

Course	Title	Credits
MDO 714	Medical Dosimetry Internship	3

### Year 2 Fall

Course	Title	Credits
MDO 721	Treatment Planning II	3
MDO 723	Brachytherapy for the Medical Dosimetrist	3
MDO 720	Medical Dosimetry Practicum II	3
MDO 722	Dosimetry Research Methods	3

### Year 2 Spring

Course	Title	Credits
MDO 731	Quality Assurance in Radiation Oncology	3
MDO 730	Medical Dosimetry Practicum III	3
MDO 733	Medical Dosimetry Seminar	3
MDO 732	Medical Dosimetry Research Methods II	3

## **Course Descriptions**

### **RAD 206- Introduction to Radiation Oncology**

Offers an introduction to the role of the radiation therapist and medical dosimetrist in a Radiation Oncology department. Through a combination of detailed lectures, discussions, role-playing, case studies, and hands-on laboratory exercises, students will be introduced to the professional and clinical aspects of their respective professions. Additional topics include radiation safety, patients' rights, infection control, communication for the clinic, patient assessment, and psychosocial aspects of cancer including death and dying.

Instructors: Jessica Mak, MS, RT(T)

### **RAD 315 – Radiation Physics I**

Content is designed to establish a thorough knowledge of the radiation physics used in radiation therapy treatments. Topics to be covered in this course include a review of basic physics (energy, mass, matter, SI units), structure of matter, types of radiations, nuclear transformations, radioactive decay, the fundamentals of x-ray generators and x-ray production, interactions of x and gamma rays with matter, absorbed dose, measurements of dose, principles of and practical use of ionization chambers and electrometers, Geiger counters and other survey meters, principles and practical use of TLDs, film, calorimetry, scintillation detectors, radiation protection and quality assurance.

Instructor: Mandar Bhagwat, PhD, DABR

### **RAD L315 – Radiation Physics I Lab**

Explores topics including quality assurance measurements for radiation therapy, calibration of radiation teletherapy unit using ionization chambers, measurements of dose distribution via film, measurements of dose in a phantom via TLDs, radiation protection survey of therapy installation and brachytherapy sources, and radiation biology

Instructors: BWH Physicists

### **RAD 423 – Radiation Oncology Cross Sectional Anatomy**

Provides detailed information about radiographic anatomy integral to radiation oncology, with an emphasis on cross-sectional anatomy. Students will review basic anatomy viewed in sectional planes of the body. Using CT and MRI images, the topographic relationship between internal organs and surface anatomy will be interpreted and discussed.

Instructor: Kerry Keaney, BS, RT (T)

### **RAD 427- Radiation Oncology Imaging Systems**

Serves as an introduction to radiology as it relates to radiation oncology, starting with a review of x-ray production and a discussion of basic radiation physics, image formation (Kv, mA) and distortion (blur, magnification), conventional processing and digital imaging. In addition, the basic principles of each imaging modality, including mammography, CT, MRI, nuclear medicine, and ultrasound will be presented. The use, benefits, and limitations of each will be discussed.

Instructor: Kira Grogg, PhD

### **RAD 428- Pathophysiology**

Students will review cancer epidemiology, etiology, detection, diagnosis and prevention, lymphatic drainage, and treatment. The pathology(s) of each cancer will be presented in detail including the rationale for each preferred modality of treatment.

Instructor: Jessica Mak, MS, RT(T)

### **MDO 615 – Treatment Planning I**

Discusses the factors that influence treatment planning and govern the clinical aspects of patient treatment. Topics include SAD and SSD dose calculation techniques, ICRU volume definitions, application of multimodality fusion in target definition, and 3D conformal treatment planning for major anatomic sites. Incorporates use of isodose curves, beam modifiers, volumetric dose evaluation, and correlation of critical organ dose limits to side effects. Introduces principles of specialized techniques including SRT, SRS, IMRT, VMAT, IGRT, and respiratory gating.

Instructor: Jacky Nyamwanda, MS, CMD, CAGS

### **MDO L615 – Treatment Planning I Lab**

Provides the student with the opportunity to apply clinical dosimetry principles and theories learned in the classroom to treatment planning situations in a simulated setting. Students perform manual dose calculations for SAD and SSD setups and complete all steps to design 3D conformal treatment plans for various anatomic sites. Focuses on optimal design of beam geometry to avoid critical organs while accounting for patient setup considerations.

Instructor: Adam Schwartz, M.S, CMD & Pantea Ahmadi, M.S, CMD

### **MDO 710- Medical Dosimetry Practicum I**

Introduces the student to the clinical practice setting with a focus on workflows, policies, and procedures. Under supervision of clinical preceptors, students complete planning competencies through design and implementation of simple 3D plans for palliative and pelvic patients. Surveys roles and responsibilities of different personnel in the radiation oncology department.

Instructor: Crystal Stancell, M.S., CMD

### **MDO 711 – Radiobiology for the Medical Dosimetrist**

Describes the effects of radiation at the molecular, cellular, and organized tissue levels and subsequent response and repair mechanisms. Reviews the effects of dose rate, radiation quality, fractionation, radioprotectors and radiosensitizers on the therapeutic ratio. Focuses on practical applications in radiotherapy including time-dose relationships, alpha-beta ratios, isoeffect curves, biologically equivalent dose (BED), equivalent uniform dose (EUD) and 2Gy dose equivalent.

Instructor: Mandar Bhagwat, PhD, DABR

### **MDO 712 – Computing & Networking**

Provides a general overview of computer systems and networking in the field of radiation oncology. Reviews the history of computers and the intricate uses in the medical field today. Surveys the use of oncology information systems such as MOSAIQ and ARIA,

and radiation therapy software used for imaging, contouring, treatment planning, and patient charting applications. Discusses communication and interoperability standards including HL7 and DICOM and considerations for data and system.

Instructor: Ryan Connolly, B.S, R.T (T)

### **MDO 713- Protocols & Operational Issues**

Reviews clinical trial protocols in relation to standard of care and discusses in detail the role of the medical dosimetrist. Surveys operational concerns including AAMD scope of practice, practice standards, and code of ethics, accreditation standards (e.g. JCAHO), billing and coding, continuous quality improvement (CQI), culture of safety, incident reporting, & legal considerations. Reinforces strategies for individual professional development and service.

Instructor: Jacky Nyamwanda, M.S., CMD, CAGS

### **MDO 714 – Medical Dosimetry Internship**

Under supervision of clinical preceptors, students design and implement increasingly complex 3D plans for various anatomic sites. Introduces treatment-planning principles for IMRT and VMAT with a focus on prostate competencies. Surveys considerations for professionalism in the clinical practice setting and the role of chart rounds for peer review.

Instructor: Crystal Stancell M.S, CMD

### **MDO 720 – Medical Dosimetry Practicum II**

Under supervision of clinical preceptors, students complete planning competencies for increasingly complex 3D and IMRT plans for various anatomic sites. Introduces advanced treatment planning techniques available at the clinical practice setting such as SBRT, SRS, and proton planning.

Instructor: Crystal Stancell, M.S, CMD

### **MDO 721 – Treatment Planning II**

A continuation of Treatment Planning I that focuses on advanced treatment planning techniques including intensity modulated radiation therapy (IMRT), arc therapy, stereotactic treatment planning, and proton therapy. Discusses the advantages of each technique/modality over conventional 3D-treatment planning and contrasts against the challenges presented by each technique such as need for better immobilization, 4D CT scanning and daily IGRT.

Instructor: Jacky Nyamwanda, M.S., CMD, CAGS

### **MDO 722- Dosimetry Research Methods I**

Introduces the basic principles of research methodology including terminology, the literature review process, and ethical principles surrounding human subjects research. Reviews statistical methods of research with a focus on data comparison and presentation of data including p-values and error bars. Students complete required training for research compliance, select a research topic, develop a research plan, and start data collection.

Instructor: Jacky Nyamwanda, M.S., CMD, CAGS

### **MDO 723- Brachytherapy for the Medical Dosimetrist**

Surveys brachytherapy principles including radioactive sources, calibration, instrumentation, factors affecting dose calculations, and definitions of LDR, MDR and HDR. Reviews treatment planning and clinical dose calculation for various anatomical sites, implantation techniques, implant localization/verification, regulations, radiation safety, storage and QA

Instructor: Mandar Bhagwat, PhD, DABR

### **MDO 730 – Medical Dosimetry Practicum III**

Under supervision of clinical preceptors, students complete all remaining planning competencies for any technique including 3D, IMRT, protons, and/or SBRT. Introduces the student to the complex variables required for treatment planning in the head and neck region.

Instructor: Crystal Stancell, M.S., CMD

### **MDO 731 – Quality Assurance in Radiation Oncology**

Reviews quality assurance requirements for various radiotherapy equipment including linear accelerators, CT scanners and treatment planning systems. Discusses operation of specific measurement devices and best practices for frequency and tolerances according to task groups of the American Association of Physicists in Medicine (AAPM).

Instructors: Jennifer Pursley, PhD, DABR & Kelly Nealon, PhD, DABR

### **MDO 732 – Medical Dosimetry Research Methods II**

A continuation of MDO 722 that surveys best practices for writing effectively in the style and format of scientific journals. Students complete data analysis from the preceding course and prepare a manuscript for submission to the writing competition of the American Association of Medical Dosimetrists (AAMD). Research projects culminate with an oral research presentation to peers, faculty and clinical instructors from our hospital affiliates.

Instructor: Jacky Nyamwanda, M.S., CMD, CAGS

### **MDO 733 – Medical Dosimetry Seminar**

A seminar style course that prepares students for the MDCB certification board exam through lectures, online teaching tools, weekly quizzes, mini mock-exams, and a full-length mock exam. Provides professional development through assistance with resume preparation, mock-interviews, and discussion of skills necessary to make job interviews successful. This course is taught in a hybrid format.

Instructor: Jacky Nyamwanda, MS, CMD, CAGS

## **Graduate Academic Standing Policy**

Please see the CAS Graduate Academic Standing & Re-Entry Policies below and which can also be accessed [here](#).

At the conclusion of each semester, the Graduate Academic Standing Committee reviews the records of graduate students failing to make satisfactory academic progress. The Committee may choose to take one of the following actions or may take other actions specific to the noted deficiency in the student file. Written notification of all actions taken by the Committee is communicated to the student in a timely fashion.

### **Academic Warning:**

- Two or more grades of I or W in a given semester, **or**
- Any grade below B, with a cumulative GPA above 3.0

### **Probation:**

- A semester GPA below 3.0, **or**
- A cumulative GPA below 3.0 for the first time

Note: Students are placed on probation with specific conditions to be met in the subsequent semester.

### **Dismissal:**

- A cumulative GPA below 3.0 for any two semesters, **or**
- Violation of professional or ethical standards, **or**
- Failure to make satisfactory progress toward completion of the degree, **or**
- Failure to meet the conditions of probation

A student dismissed from any dual degree program is dismissed from all programs that constitute the dual degree. Dismissals are recorded on the student transcript.

A student may appeal any decision in writing to the dean of the college within 30 days of receipt of the notice of action taken by the committee. The dean or designee will then make a final determination at the conclusion of a full investigation. (Please consult the published statements of individual graduate programs for any additional academic guidelines and policies regarding specific program requirements.)

## **Clinical Rotation Assignments**

### **Overview**

Incoming students are assigned to their clinical rotations in the summer prior to enrolling. In compliance with the Joint Review Committee on Education in Radiologic Technology (JRCERT) standards, clinical rotations are arranged and assigned in a fair and equitable manner.



Students are assigned to a “track” of rotations detailing which clinical sites they will rotate at from the beginning to the end of the program. This provides students with an opportunity to plan accordingly for any travel or other accommodation they may need to arrange themselves for the foreseeable future.

### **Rotation Track Configuration**

The rotations are arranged by the Suffolk University program, based on a variety of factors such as curriculum, required competencies, and clinical site capacity with respect to availability of qualified clinical preceptors. Additional factors include patient treatment volume and equipment availability affected by upgrades or replacement of treatment planning systems.

The clinical rotation configuration decisions are not made lightly. Students should take note that significantly more components go into the rotation arrangement decisions than may be directly known or visible to them.

The rotation tracks are designed equally in that they are comprised of at least one large center, one satellite facility, and one rotation in Proton treatment planning. Students also have a rotation scheduled to learn both Eclipse and Raystation treatment planning systems, and experience rotations including brachytherapy and stereotactic treatment planning, among the other program requirements.

### **Rotation Assignment Process**

The clinical rotations are assigned to each student at random but note that clinical site affiliates of the program are subject to change. Students will be assigned to a minimum of two different clinical sites.

**To maintain fairness and equitability to all students, as well as due to logistical considerations described above, student preferences and requests for rotation assignments are not permitted. Students are not able to request different rotations.**

### **Rotation Assignment Adjustments**

In the event a student identifies a preference for a track or a specific rotation for any reason (e.g., proximity, transportation, etc.), they are given the opportunity to have one week from the time of rotations are assigned to switch their entire track with one of their classmate’s tracks. Individual rotations cannot be switched with another rotation (i.e. students must swap the entire track, or not swap at all). Students may ask their classmates if they would like to trade tracks, however they are not allowed to pressure other students to trade. The swapping of tracks must be mutually agreed upon by both students, and they must both inform the Clinical Coordinator. After the one-week time span has concluded, the rotations are solidified for the duration of the program.

If at any point an unforeseen change in the clinical site capacity or another unanticipated curriculum-based need arises, a rotation adjustment may be made by the program.

Before any changes are implemented, all efforts are put forth by the program to maintain the originally scheduled rotations. These adjustments are reserved for situations of

absolute necessity. Students will be informed of any adjustments in as timely of a manner as possible.

### **Clinical Sites**

Students will be placed at the following clinical sites based on affiliation agreements between the University and the hospitals as listed.

According to the affiliation agreements, **the hospitals and the University have the right to suspend or terminate the clinical experience of any student for reasons of health, unsatisfactory performance, or other reasonable cause.**

### **Background Checks, Immunizations and CPR Requirements**

All students are required to comply with various requirements of our clinical affiliates in order to be cleared to start clinical rotations. This includes submitting information required for background checks such as the Criminal Offender Record Information (CORI) and providing proof of required immunizations. Students are also required to obtain a flu shot and a TB/PPD test at their own expense based on the schedule determined by their clinical site. Students entering the program in the Fall of 2022 and later will also be required to obtain CPR certification at their own expense prior to enrolling in the program.

### **Travel Agreement**

Suffolk University has a variety of clinical sites for training purposes in the field of Medical Dosimetry. As a student in the program, you may be required to complete rotations at any of these sites and are therefore obligated to obtain transportation to and from each site, without responsibility to the University. Students sign a copy of the travel agreement (Appendix A) before enrolling in the program to acknowledge their responsibility to provide their own transportation to any of the affiliates for clinical training in the Medical Dosimetry Program.

## Clinical Site and Preceptor Contacts

Clinical Site	Clinical Preceptors
<a href="#"><u>Brigham and Women's Hospital</u></a> 75 Francis Street Boston, MA 02115	Caitlyn Smith, B.S., RT(T), CMD Rebecca Barrett, M.S., CMD
<a href="#"><u>DFCI/Brigham Cancer Center, Milford Regional Medical Center</u></a> 20 Prospect Street Milford, MA 01757	Ron Zammuto, B.S., CMD, RT(T)
<a href="#"><u>Lahey Hospital &amp; Medical Center</u></a> 41 Mall Road Burlington, MA 01805	Nicholas Hopkins, M.S, RT(T), CMD Danielle Doolittle, B.S., CMD
<a href="#"><u>Massachusetts General Hospital</u></a> 100 Fruit Street Boston, MA, 02114	Rachel Forman, B.S., CMD Li Liu, M.S., CMD Jackson Lau, M.S., CMD Pantea Ahmadi, M.S., CMD Kenneth Weaver, A.S., CMD Nathan Miles, M.S., CMD
<a href="#"><u>MGH/North Shore Cancer Center</u></a> 102 Endicott Street Danvers, MA 01923	Hugh Prichard, B.S, CMD
<a href="#"><u>MGH Newton Wellesley Hospital</u></a> 2014 Washington Street Newton, MA 02462	Christopher Lyons B.S., CMD
<a href="#"><u>Rhode Island Hospital</u></a> 593 Eddy Street Providence, RI 02903	Steven Ramey, A.S., CMD Peter Treon, B.S., CMD Matthew Keefe, B.A., B.S., CMD
<a href="#"><u>DFCI/Brigham Cancer Center South Shore Hospital</u></a> 101 Columbian Street South Weymouth, MA 02190	Josh Hempstead, B.S., CMD

## **Clinical Preceptor Qualifications & Duties**

### **Qualifications**

1. A minimum of two years of experience in medical dosimetry or medical physics.
2. Board certification by the Medical Dosimetrist Certification Board (MDCB) or American Board of Radiology (ABR).

### **Mandatory Training**

This training will be conducted by the Program Director and/or the Clinical Coordinator and is required before the preceptor is involved in providing clinical instruction for the medical dosimetry program. The training will ensure that the clinical preceptor meets the following requirements as set forth by the JRCERT.

1. Knowledgeable of program goals
2. Understands the clinical objectives and clinical evaluation system
3. Understands the sequencing of didactic instruction and clinical evaluation
4. Maintains current knowledge of program policies and procedures including requirements on instruction and supervision

### **Duties and Responsibilities**

1. Provide students with clinical instruction and supervision in treatment planning
2. Approve all calculations and treatment plans completed by a student before plan implementation
3. Evaluate students' clinical competence using the competency evaluation tools provided by the program
4. Provide an overall performance evaluation for each student in the middle and at the end of their rotation in regard to clinical competence
5. Monitor student progress and provide feedback to program staff
6. Maintain competency in medical dosimetry and instructional and evaluative techniques through continuing professional development
7. Is knowledgeable of program goals
8. Understands the clinical objectives and clinical evaluation system
9. Understands the sequencing of didactic instruction and clinical education
10. Maintains current knowledge of program policies, procedures, and student progress.

### **Competency Based Clinical Rotations**

A treatment planning competency involves performing all tasks required for creating a plan for actual patients under treatment. This includes contouring, treatment plan design, dose calculation, and all tasks required for plan implementation such as monitor unit secondary checks and electronic charting in the Record & Verify system. In the event that an actual case is not available to the student, a simulated case may be substituted but every effort should first be made to ensure that an actual case is used.

## Evaluation of Student Clinical Performance

Students are evaluated by clinical preceptors on their performance on individual competencies. They also receive an overall clinical performance evaluation in the middle of and at the end of each rotation which addresses the affective, cognitive, and psychomotor domains to ensure that students are making progress in their technical skills and professionalism. All evaluation forms are housed in E\*Value, which is our clinical student management system. *See Appendix B for an example of an CT-based competency evaluation form and Appendix C for a clinical performance evaluation.*

## Master Competency List - Class of 2024

Whole Brain-Palliative
Spine- Palliative
Three-Field <b>or</b> Four-Field Pelvis (wedges/FIF)
GYN-Para-aortic or Nodal Irradiation*
Abdomen* (Pancreas/stomach/GE Junction/other)
Breast Tangents (FIF)
Chestwall Tangents (Bolus/No Bolus) + SCV
Lymphoma (involved field/involved site)*
Electron beam plan
Electron hand calculation ( <i>Completed in TX Planning I</i> )
Lung (Primary)*
Extremity (Sarcoma/Myeloma)*
<i>Esophagus*- Tx Planning II</i>
CNS (Primary) w/ MRI fusion*
Prostate IMRT/VMAT
SIB (any body site)
Prostate Proton Plan
Image Registration (Rigid & Deformable)
SBRT Plan
H&N IMRT/VMAT (SIB)
<i>Re-irradiation/Composite Planning- Medical Dosimetry Seminar</i>
<i>Brachytherapy Interstitial Plan (Prostate)- Completed in Brachytherapy Lab</i>
<i>Brachytherapy Intracavitary Plan (GYN)- Completed in Brachytherapy Lab</i>

\*Can be done with IMRT/VMAT

## Required Observations

Observation
Patient simulations (CT)
Patient verification simulations
4D CT Acquisition
Patient treatments (photons, electrons)
Proton treatments (PBS + Passive Scatter)
Linear Accelerator QA (Morning Warmup)
<i>Linear Accelerator QA (Monthly)- QA Course</i>
IMRT QA
CT Simulator QA (Morning Warmup)
<i>CT Simulator QA (Monthly)- QA Course</i>
Stereotactic Radiosurgery - Plan
Stereotactic Radiosurgery- Treatment
Posterior Axillary Boost Plan (Breast)
Gating/DIBH- Treatment
HDR Treatment (GYN)
Brachytherapy Seed Insertion (Prostate LDR or HDR)
Brachytherapy GYN HDR
Physics Plan Checks
Nursing observation <i>**suspended during Covid</i>

## Grading Scale

Grade	Points
A	4
A-	3.7
B+	3.3
B	3
B-	2.7
C+	2.3
C	2
F	0

### Clinical Rotation Timeframes

Year	Rotation	Duration	Dates	Students
	Orientation/Boot Camp		1/17 & 1/19	Class 2024
2023	Spring Block #1	7 Weeks	1/17-3/10	Class of 2023 & 2024
	Spring Break	1 Week	3/13-3/17	
	Spring Block #2	6 Weeks	3/20-5/1	Class of 2023 & 2024
	Finals Week	1 Week	5/3-5/9	
	Break	1.5 Weeks	5/10-5/19	
	Summer Internship Block #1	6 Weeks	5/22-6/30	Class of 2024
	Break	1 Week	7/3-7/7	
	Summer Internship Block #2	6 Weeks	7/10-8/18	Class of 2024
	Break	2 Weeks	8/21-9/4	
	Fall Block #1	7 Weeks	9/5-10/20	Class of 2024
	Fall Block #2	7 Weeks	10/23-12/8	Class of 2024
	Finals Week	1 Week	12/11-12/15	
2024	Winter Break	4 Weeks	12/18-1/15	
	Spring Block #1	8 Weeks	1/16-3/8	Class of 2024 & 2025
	Spring Break	1 Week	3/11-3/15	
	Spring Block #2	6 Weeks	3/18-4/29	Class of 2024 & 2025
	Finals Week	1 Week	5/1-5/7	



## Part II: Clinical Policies and Procedures

### Attendance:

(Clinic hours and schedules may be subject to change. Please consult your syllabus.)

Medical Dosimetry Practicum I	T, TH 8:00 AM – 4:30 PM (16 hrs/wk)
Medical Dosimetry Practicum II	T,W,TH 8.00 AM-4.30 PM (24 hrs/wk)
Medical Dosimetry Practicum III	M, W, F 8:00 AM – 4:30 PM (24 hrs/wk)
Medical Dosimetry Internship	M-F, 8:00 AM - 4:30 PM (40 hrs/wk) <b>OR</b> M-Th, 7.00 a.m.-5.30 p.m. (40 hrs/wk)*

\*Please note that during the summer internship the following clinical sites permit students to work four, 10-hr days for a total of 40 hrs/week.

- Brigham and Women's Hospital, Boston, MA
- Dana-Farber/Brigham and Women's Cancer Center, Milford, MA
- MGH North Shore Cancer Center, Danvers, MA
- Lahey Hospital & Medical Center, Burlington, MA
- MGH Newton Wellesley Hospital, Newton MA

### Breaks:

Morning break – 15 minutes

Lunch – 30 minutes

### Medical Dosimetry Internship (Summer)

Monday – Friday 8:00am-4:30pm (40 hrs/wk)

Lunch = 45 min (30 min lunch + 15 min break combined)

Monday – Thursday 7:00am-5:30pm (40 hrs/wk)

Lunch = 1 hour

15 min break in AM and 15 min break PM

### Excused Absences:

Fall and Spring Year 1 Practica: 1 (one)

Summer Internship 2 (two)

Spring Year 2 Practicum: 3 (three) to accommodate job interviews.

*Student must inform:*

- Clinical preceptor by 7:45am via phone call or email
- Clinical Coordinator by 7:45am via e-mail



*Excused absences may be utilized for sick days or personal days. (This is a professional courtesy for illness, emergency, bereavement only and should not be viewed as a vacation day.) Please note that any additional absences will have to be made up during the same semester and will not carry forward. Make-up time is contingent upon approval from the clinical site and the Program Director/Clinical Coordinator.*

**Students must inform clinical coordinator & preceptor if they miss any clinic time.**

**\*\*\*Students must contact Student Affairs at 617-573-8239 or by [email](#) if they expect to be absent for 1 week or longer.**

### **Unexcused Absences**

Failure to properly notify the Clinical Coordinator about absences will result in the following actions:

- First unexcused absence- verbal warning regarding absences
- Second unexcused absence- written warning and drop of a letter grade
- Third unexcused absence- continuation in the program is subject to review by the Graduate Academic Standing Committee (professional standards).

**Note: All absences from the clinic in excess of those permitted MUST be made up in order to complete all clinical requirements. \*\*The Program Director/Clinical Coordinator will coordinate with Student Affairs on how to handle absences due to serious illness or other extended emergencies on an individual basis. For these unique scenarios, students *may* only need to make up the number of hours needed to complete clinical requirements\*\***

**Students who complete their clinical requirements ahead of schedule should still attend clinic to continue developing their clinical skills e.g. by working on clinical cases. They are not allowed absences in excess of those permitted.**

### **Punctuality & Clinical Hours**

Students are expected to arrive on time unless otherwise arranged. They should arrive no more than 10 minutes prior to scheduled shift to get situated and get ready for the day.

Students must use a PC in the clinic to sign in and out of the E\*Value student management system. Logins will be audited periodically to ensure that no mobile devices are being used.

A certified practitioner (CMD Dosimetrist or DABR Physicist) must approve all clinical hours also using E\*Value. Any clinic time not approved by the practitioner will have to be made-up.

**Students may not make up time or be in clinic on days when Suffolk University is closed.** Student may not exceed more than ten (10) clinical hours per day.

## **Tardiness**

Tardiness is defined as arriving in clinic after the usual arrival time of 8.00 a.m. (or 7.30 a.m. if doing a 4-day week in the summer) without a valid reason. Punctuality is evaluated by clinical preceptors in the affective section of the clinical performance evaluation and is part of the professional curriculum.

## **Suffolk University Closing or Delayed Opening**

In the event that Suffolk University has a delayed opening due to inclement weather or other emergencies, all didactic classes will follow the plans outlined in the syllabus and in accordance with the university's [Continuity of Learning Plan](#). For clinical practica and the summer internship, the program may invoke the temporary remote clinical attendance policy after consultation with our clinical affiliates. If classes are cancelled by the university, clinical practica and the summer internship will also be cancelled in their entirety. In all instances, the clinical coordinator will update the clinical sites and students via email.

## **Reciprocal E-mail/Response Policy:**

Program staff often need to communicate time-sensitive information to students e.g., a change in schedule communicated to us by a clinical site, requests for information for onboarding, and notifications for radiation badge pick up and drop off.

As such, students are required to check their Suffolk e-mail accounts regularly during the week (Monday-Friday) excluding Suffolk holidays and vacations, or sick days and respond within one (1) to two (2) business days to e-mails from the Program Director, Clinical Coordinator, and other Program staff. This should be reciprocated by Suffolk staff, with the above exceptions, and including staff vacation days.

## **Communication with Clinical Staff:**

Students communicating with physicians or other clinical staff **about patient plans** must use their hospital email accounts when doing so. In addition, they must always copy the supervising clinical preceptor/planner on the emails. If the student receives a response but the clinical preceptor/supervising planner is not on the recipient list, the student must forward the email to the preceptor/supervising planner. **Students are required to adhere to hospital policies regarding encryption of laptops if accessing hospital email and/or other software remotely.** Students should NOT access their hospital email or other hospital communication applications such as Teams on Smart Phones.

## **Professional Appearance:**

The dress code in the clinic, virtual or in-person, should reflect a high level of professionalism, which inspires confidence among the patients and co-workers. Students are expected to be well-groomed and clean at all times and are required to adhere to any dress code requirements specific to their clinical site.

## **Lab Coats**

A clean, ironed lab coat identifying you as a Suffolk University student must be worn.

*This is provided at no cost by the Biology Department.*

## **Identification**

Students must be properly identified at all times when in the clinical practice setting. Hospital-issued ID badges must be worn and visible at all times.

## **Dress Clothes**

1. Dress clothes should be worn at all times. Options include dress slacks, tops/sweaters, dresses, skirts, collared shirt, tucked in, with a properly tied tie.
2. No jeans, sweatpants, t-shirts, leggings, or other similar casual attire.

## **Footwear**

1. Shoes should be clean and polished as applicable.
2. No open toe shoes or sandals per hospital infection control and safety policies.
3. No sneakers, work boots, snow boots or rain boots.
4. Jewelry should be kept to a minimum for safety around equipment and patients. Long, dangling accessories should be avoided for this reason.

## **Grooming**

1. Fingernails must be kept short. Chipped fingernail polish is not allowed per hospital infection control policies.
2. Facial hair should either be shaved or be kept short, neat and well-groomed at all times.
3. No visible piercings, other than the earlobes, as this may not be permitted by some clinical sites.
4. Co-workers and patients in particular, are often very sensitive to strong scents. Therefore, use of strong-scented perfumes, colognes and after-shaves are not permitted.

**It is imperative that a professional appearance is maintained in the clinic in accordance with this policy and any hospital dress code policies.**

## **Hospital ID Badges**

Hospital-issued ID badges are obtained as follows:

MGH- During clinical orientation and these are also used at MGH NSCC.

BWH- Students rotating at BWH Milford and BWH South Shore will need to obtain their ID badges from BWH Longwood during the first week of school and **before first day of clinic**. Students rotating at BWH Longwood will get their badges on the first day of clinic.

MGH NWH, Lahey Health & Rhode Island Hospital- Obtained prior to or during first week of clinic per instructions from the individual hospital.

## **Scrubs Policy**

Students observing patient treatments in operating rooms e.g. brachytherapy and IORT will be required to obtain scrubs from the clinical site at which they are rotating. Instructions specific to each clinical site will be provided by your preceptor or the clinical staff supervising the procedure. Students must adhere to the clinical site's scrubs return policy as some will charge a fee for unreturned scrubs.

**Hospital ID Badges (all), hospital scrubs, lab coats, and Radiation Monitoring Badges issued by the Biology Department must be returned upon completion of the program. If not, students will not receive a grade (NG) for MDO 730 and will not be allowed to graduate.**

### **Confidentiality:**

Students are expected to maintain the confidentiality of patient information at **ALL** times, in and outside of the Radiation Oncology department. **ALWAYS** be aware of your surroundings, breaches of this policy **MAY** lead to **DISMISSAL** from the clinical site as outlined in the affiliation agreements between the university and our clinical sites. In addition, breaches of confidentiality may be considered a violation of the professional or ethical standards as outlined in the [Graduate Academic Policies](#) of the university and subject to dismissal after review by the Graduate Academic Standing Committee. Prior to entering the clinic students will be introduced to HIPPA (Health Insurance Portability and Accountability Act of 1996) and will be required to sign a confidentiality statement.

### **Accessing Clinical Systems Remotely**

Students will be provided remote access to clinical systems in certain courses. At all times, patient confidentiality must be maintained. Clinical systems may not be accessed over public WiFi or in public spaces such as a library.

MDO-L615- Treatment Planning I Lab- This will be held in a computer lab on the Suffolk campus. Students will access the MGH treatment planning systems using the workstations in the lab.

MDO-714- Medical Dosimetry Internship- Students may be permitted by their clinical site to follow a hybrid schedule during summer internship. On the days when students are attending clinic remotely, they must access clinical systems using private, password-protected WiFi. They must also adhere to any additional policies of the clinical site e.g. only accessing the systems through VPN.

MDO-722 and MDO-732- Medical Dosimetry Research Methods I&II- Students may be permitted by their clinical site to access clinical systems remotely for data collection for their research studies. Students are encouraged to use the workstations in the dedicated computer lab at Suffolk for this purpose. If they need to access clinical systems from home, they must use private, password-protected WiFi. They must also adhere any additional policies of the clinical site e.g. only accessing the systems through VPN. This policy will apply to any other scenario where a student must access clinical systems remotely e.g., when the continuity of learning plan is in place and calls for remote attendance of classes.

### **Professionalism:**

Students in the radiation oncology departments are acting as representatives of Suffolk University and are expected to behave in a professional manner at ALL times. Suffolk

University and its clinical affiliates strictly adhere to a zero-tolerance policy within the clinics. Profanity and/or aggressive behavior will not be tolerated. Any displays or confirmed reports of such behavior will be subject to sanctions which may include dismissal in accordance with rules of the [Suffolk University Community Standards and Student Conduct System](#).

Please keep personal phone calls and socializing to a minimum. **Cell phone use is not permitted in the clinic.** In addition, please review the American Association of Medical Dosimetrists [Code of Ethics](#). This code of will also be covered during RAD 206, Introduction to Radiation Oncology and MDO-713, Protocols & Operational Issues.

### **Artificial Intelligence (AI) and Technology**

All work submitted will be your own. Unless specifically instructed otherwise, students will not use artificial intelligence (AI) engines, software, or other services to generate graded work. The only exceptions would be for work for which the instructor gives specific guidelines for the uses of these generative tools. Instructor will be explicit about when those situations arise in the semester and explain the appropriate use of AI for them. However, this limited use of AI allowed for some class activities does not extend to any other part of the course. AI used in clinical practica and internship must be reviewed and approved by the clinical preceptor. Refer to class syllabus for more information

### **Use of Educational Spaces Policy Including all Clinical Affiliates:**

This policy will govern the use of all spaces made available for student use by our clinical affiliates. Only those students who are scheduled to be at their clinical site may be present in the clinic at any time. This includes the use of the educational space and conference rooms at Massachusetts General Hospital and all other affiliates.

Students attending classes offered at Massachusetts General Hospital or Brigham and Women's Hospital must only be on site for the sole purpose of attending class, unless meeting with a course instructor at a pre-arranged time and location.

If you are not scheduled but wish to be in the Radiation Oncology Department for any reason, this **MUST** be discussed with the Clinical Coordinator. Students who fail to abide by this policy are subject to sanctions according to the Community Standards and the Student Conduct system and/or the policies of our clinical affiliates.

This policy is necessary to maintain the distribution of resources to all students and to avoid overwhelming the clinical staff. It is also a matter of Suffolk University being responsible for student's whereabouts in emergency situations. Please respect and adhere to the clinical schedule you have been assigned.

### **Computer Use at Clinical Affiliates:**

Suffolk students are provided with access to various computers at our clinical affiliates in order to facilitate clinical instruction. These computers should only be used for activities directly related to your clinical or didactic coursework and patient confidentiality must be respected at all times. You may access the internet to retrieve journal articles, to perform research or to check your Suffolk email account. The following activities are strictly

forbidden while at your clinical site.

Use of social media such as Facebook, Twitter, Instagram etc.

Internet browsing unrelated to clinical coursework.

Accessing any applications that are unrelated to clinical coursework.

Downloading software or applications of any type unless directed and authorized to do so by the hospital.

## **Health & Safety:**

The safety of our students and their patients is a major concern of Suffolk University and its clinical affiliates.

### **Patient Safety**

Student dosimetrists must be able to satisfactorily perform their required clinical assignments while maintaining patient safety. While we understand that mistakes can happen, disregard for patient safety will not be tolerated. Our affiliates operate under a safety culture which encourages non-punitive reporting of errors.

Examples of poor judgment of patient safety include but are not limited to the following:

- Attempting to implement a plan without reviewing it with the preceptor and/or physician
- Attempting to cover up a mistake

### **General Safety**

As part of this comprehensive health and safety policy, students are required to utilize standard precautions to minimize or eliminate the spread of infectious microbes. *(The use of Standard Precautions will be covered prior to the student entering the clinic)*

Students are also required to complete the appropriate Fire & Safety training sessions offered by MGH's Environmental Safety Office as part of general orientation, followed by training specific to their clinical site.

### **Radiation Safety**

Radiation Safety is covered as part of RAD L315, Radiation Physics I lab so that students become familiar with safe radiation practice measures. While in the clinic students should always practice ALARA by making every reasonable effort to minimize radiation dose exposure to as low as reasonably achievable. They should also eliminate or reduce radiation exposure by following the quintessential radiation safety means of time, distance, and shielding. Regarding radiation exposure, time should be minimized, distance should be maximized, and shielding should be utilized whenever necessary.

The Suffolk University Biology Department will issue each student a radiation monitoring badge to be worn above the waist and on the outside of the lab coat to monitor any radiation exposure. This badge must be changed each quarter; the Biology Department will distribute new badges. Students will have access to Quarterly Radiation Exposure Reports within 30 days of receipt by the Biology Department and will be notified by the Clinical Coordinator for review.

Students will be immediately alerted by the Clinical Coordinator to exposures that reach or exceed 15% (quarterly exchange) of the program's annual limits. According to the Code of Massachusetts Regulations (CMR) for Radiation Safety, the annual occupational whole body dose limit is 5,000 millirem, the annual eye dose limit is 15,000 millirem, and the annual shallow dose limit is 50,000 millirem. The program has established dose limits at half of the originally listed values as follows. The annual occupational whole body dose limit is 2,500 millirem, the annual eye dose limit is 7,500 millirem, and the annual shallow dose limit is 25,000 millirem. If a student receives a high reading of **15% of the Program's annual limits**, the Clinical Coordinator will perform an investigation to determine how the individual received the high dose. If it is determined the dose is real (i.e. not from leaving the radiation badge in a treatment room during a radiation treatment, etc.), a policy beyond the current radiation safety measures will be implemented in order to control future exposures.

Suffolk University strictly adheres to the Code of Massachusetts Regulations for Radiation Safety (CMR). A copy of the CMR can be found in the program director's office or you may obtain a copy of it on the web at <https://www.mass.gov/doc/105-cmr-120-the-control-of-radiation-0/download>

**\*If the badge is returned late or lost, the student will be required to pay a new fee of \$25.00. Please contact Melissa Muchmore, Administrative Services Manager at [mmuchmore@suffolk.edu](mailto:mmuchmore@suffolk.edu) if you lose your badge.**

### **Prior Radiation Exposure**

Students with prior occupational radiation dose will be required to sign a release authorization so that the program can request records of their radiation exposure history from their employer or previous clinical education program. Upon receipt, this information will be provided to our radiation badge vendor for documentation of cumulative occupational radiation dose.

### **Magnetic Resonance Imaging (MRI) Safety**

One of our clinical affiliates, Brigham & Women's Hospital (BWH), has an MRI-linear accelerator. Students are instructed on MRI safety during RAD 206, Introduction to Radiation Oncology, and again during clinical orientation. The MRI Safety Screening Protocol adapted from Brigham & Women's Hospital is used as part of clinical orientation. Additionally, students completing clinical rotations at Brigham & Women's Hospital are required to complete mandatory MRI Level 1 safety training. ***Please refer to Appendix D for the MRI Screening Protocol.***

### **Communicable Diseases**

The health and safety of employees, students and patients, and protection of the environment are some of Suffolk University and its clinical affiliate's greatest responsibilities. It is the policy of the university that it will operate in accordance with all applicable state, federal, local, and internal health safety and environmental compliance regulations.



A communicable disease is defined as any disease that is transmissible by infection or contagion directly or through the agency of a vector. It is vital to the health and safety of all students, employees, and patients that this policy be strictly enforced and adhered to. As part of this policy, all students must provide proper documentation of required immunizations and vaccinations. (*see Immunizations section*)

In addition, students who know that they have been exposed to a communicable disease should immediately report the exposure and any related medical symptoms. It is important to the hospital's infection prevention and control program that all employees, volunteers and **affiliated non-employees (Suffolk clinical students)** report to the Occupational Health Service if they have symptoms of, or have been exposed to, an infectious illness/disease. The hospital is required to keep a log of these incidents for individuals in these groups and provide clearance before you can return to clinic.

### **Occupational Health & Safety Contact Information**

Brigham & Women's Hospital (BWH)	617-732-6034
DFCI/BWH Milford	617-732-6034
Lahey Hospital & Medical Center	781-744-8796
Massachusetts General Hospital (MGH)	617-726-2217
MGH Newton Wellesley Hospital	617-243-6168
MGH North Shore Cancer Center	617-726-2217
DFCI/BWH South Shore	617-732-6034
Rhode Island Hospital	401-444-4038

It is **mandatory** to call the Occupational Health Service if you have been exposed to any communicable diseases listed in the [Massachusetts Department of Health 105 CMR 300.100](#) (Diseases Reportable to Local Boards of Health) or [Rhode Island Department of Health \(Reportable Diseases and Conditions\)](#) *The Massachusetts list is provided in Appendix F while the Rhode Island List is provided in Appendix G.*

Students actively participating in the clinic at the time of exposure should report directly to the clinical preceptor at their specific clinical site. An assessment of the student will be performed by the clinical affiliate's Occupational Health Department and the appropriate recommendations will be forwarded to the Health Services Department at Suffolk University by either the Clinical Coordinator or the clinical preceptor. If the student is not actively participating in the clinic at the time of exposure, he or she should immediately report to the University's Counseling, Health and Wellness Center located on the 5<sup>th</sup> floor at 73 Tremont. Their telephone number is (617) 573-8226. In the event that a student cannot reach the clinical preceptor or the University's Health Services Department, he or she should immediately contact the Clinical Coordinator or Program Director for the appropriate instructions.

Your cooperation with this requirement is important even if you work in a job or work area that does not involve patient care. Often, a phone call is all that is needed to fulfill this requirement.

### **Covid-19 Policies**

The university adheres to Covid-19 guidance provided by the Centers for Disease Control



(CDC) and/or the Massachusetts Department of Public Health. As this information is continuously changing due to the nature of the pandemic, please see the university's Covid-19 Advisory page at this [link](#). Students will also need to adhere to the policies specific to their clinical site regarding attesting to symptoms and social distancing while on site. Please see your clinical site's website for the most up to date information.

## **Immunizations**

As stated under the [Immunization Requirements](#) section of the Suffolk University Healthcare policy: Massachusetts State law requires all students who are enrolled in twelve or more credits each semester to provide proof of immunization against measles, mumps, and rubella (MMR), tetanus, diphtheria, and acellular pertussis (tdap), Hepatitis B, meningitis, and varicella. Failure to comply with this regulation will result in the student being unable to register for classes and participate in the clinic. In addition, students must adhere to annual influenza immunization and tuberculosis testing as required by their clinical affiliate site. Students must also comply with any additional requirements of their clinical affiliate.

## **Needle Stick Policy**

If a student is stuck with a needle during their clinical rotation, the procedure below must transpire, regardless of the individuals involved with the needle stick. This does not include if a student sticks themselves with a sterile needle.

The following must take place immediately:

- **Student must go to ER and have blood labs drawn for:**
  - **HIV** (necessary if the source patient was high risk, optional if the source patient was low risk)
  - **Hep B** (unless the student has prior immunity)
  - **Hep C** (Viral RNA)
- **Physician must be contacted to request that the patient also have these blood labs drawn**

In a timely manner of the same day, the following should also occur:

- Inform Clinical Coordinator of the incident

If the patient is willing to have blood labs drawn, additional follow up care for the student isn't required. If the patient is not willing to have blood labs drawn the student should have blood labs drawn according to the following schedule:

- 4 Weeks: Hep C Viral RNA
- 6 Weeks: Hep C Viral RNA, HIV
- 12 Weeks: Hep C Viral RNA, HIV
- 26 Weeks: Hep C Viral RNA, HIV

**The student must adhere to the medical instructions given and the process above must be completed before the student may reenter the clinic.**

***\*\*\*Note: In the event of a needle stick, Suffolk University nor the affiliate clinical site***

*does not cover the payment for care received. Any deductible or co-payment is the student's responsibility. \*\*\**

## **Supervision**

Students must be supervised by certified Medical Dosimetrists or certified Medical Physicists when working in the Radiation Oncology departments of our clinical affiliates. In accordance with JRCERT requirements, there MUST ALWAYS be at least one (1) certified dosimetrist or certified physicist for every two (2) students. Students must be supervised at all times. All treatment plans and dose calculations performed by students must be approved by a certified dosimetrist or physicist. The act of a student implementing a treatment plan without supervision of a certified dosimetrist or physicist is subject to referral to the Graduate Academic Standing Committee as a violation of professional standards. Any clinical questions, issues, or concerns surrounding supervision should be brought to the attention of the program director (617) 725-4109 or the clinical coordinator.

During direct patient contact procedures such as simulation and fabrication of immobilization devices, direct supervision by a credentialed practitioner is required. The JRCERT defines direct supervision as “*student supervision by a credentialed practitioner who:*

- *reviews the procedure in relation to the student's achievement,*
- *evaluates the condition of the patient in relation to the student's knowledge,*
- *is physically present during the conduct of the procedure, and*
- *reviews and approves the procedure”*

## **Pregnancy**

In the event a Medical Dosimetry student becomes pregnant, the student may choose to declare the pregnancy, since there is a potential risk to the developing fetus from radiation exposure. If a student chooses to declare a pregnancy, the student shall notify the Program Director in writing about the pregnancy. A copy of this declaration shall be maintained by the Program Director. If the student chooses not to declare a pregnancy the result will exempt the student from the state radiation protection regulations found in 105CMR.

Students entering the program shall complete the Pregnancy Policy Form (Appendix E) indicating they have been informed of the pregnancy policy and procedure as outlined below. Any student, who voluntarily discloses pregnancy, may withdraw the disclosure of pregnancy at any time in writing to the Program Director.

Pregnant students will be permitted to continue in the clinical portion of the program as long as long as their embryo/fetal exposures are in conformance with the requirements of 105CMR120.218. If the student chooses to remain in the clinic all efforts must be made by the student to ensure that exposure does not exceed 500 mrem (5 millisieverts) for the entire gestation period. If the student voluntarily chooses this option, they will be encouraged to do the following:

- When in the clinic, a radiation-monitoring badge (Fetal Badge) should be worn at the waistline in addition to the usual TLD, to monitor the maximum

permissible dose. The maximum permissible risk per the CMR is 500 mrem (5 mSv) for the entire gestational period. Wearing this badge will allow for the Radiation Monitoring service to notify the student if and when 80% (400 mrem) of the maximum permissible risk has been received, or if the monthly limit of 50 mrem has been reached or exceeded

- If the maximum permissible risks are reached, the Program Director and the student can construct an alternative plan that does not involve active participation in the clinic.
- To further minimize any risk to the embryo/fetus, the student should always exercise knowledge of radiation safety methods.
- The Medical Dosimetry program offered through Suffolk University and its clinical affiliates intends to offer its students the highest degree of radiation protection and monitoring possible. However, **the program will not be responsible for injury to either the mother or embryo/fetus due to radiation exposure.**

A pregnant student who chooses not to remain in the clinic has the following two (2) options:

- 1) Request a leave of absence from the clinical rotation; however, attendance for all didactic courses will be required. In addition, all of the clinical rotation time and exams will need to be completed within the following academic year.
- 2) Submit a letter to the Program Director to request withdrawal from the program. If, at a later date, the student would like to re-enter the program, the student will be required to complete the application process for readmission.

## Grade Grievances & Academic Complaints

The university's policy on academic grievances applies to clinical rotations and can be accessed at <https://www.suffolk.edu/student-life/student-services/student-handbook/university-policies-for-students-cas-sbs/grievances-academics>

Please access the link above to access information about academic complaints, the process of grieving a final course grade, grievances related to academic accommodations for students registered with Disability Services and more.

## Academic Misconduct

The university's Academic Misconduct Policy at the link below applies to clinical rotations. <http://www.suffolk.edu/studenthandbook/19863.php>

## Liability Insurance:

A Malpractice Blanket Liability Insurance policy will be provided through Suffolk University. Please remember, students must be supervised by a certified medical dosimetrist, medical physicist or radiation therapist at all times when with patients and operating radiation therapy computers and equipment.

### **Part Time Employment of Students by Clinical Affiliates:**

1. Students may not accept paid employment at clinical sites where they are currently assigned for a clinical rotation. This will ensure a clear separation of clinical educational coursework and paid clinical work. There will be **no** exceptions to this policy.
2. Any work completed as part of paid employment may not be used towards completion of any clinical education objectives. This will ensure compliance with Standard 1.3 of the Joint Review Committee on Education in Radiologic Technology (JRCERT), which states in part that “A meaningful clinical education plan assures that activities are educationally valid and prevents the use of students as replacements for employees”.
3. Students should not feel coerced to accept employment. It should be non-compulsory, paid and subject to employee regulations of the hiring organization.
4. Suffolk University reserves the right to verify the techniques for which the student has already demonstrated competence. The program wishes to note that there exist stylistic differences in treatment planning and delivery between the clinical affiliates. It is therefore the responsibility of the affiliate to ensure that the student employee is familiar with their particular techniques.
5. While employed, the student is not covered for liability by Suffolk University for services performed for the hiring organization.
6. While employed, the student may not use their Suffolk-issued radiation badge while in the clinic. It is the responsibility of the employer to provide the student with a radiation badge.

### **Temporary Remote Clinical Education Policy** **(Rev 10/22)**

This policy is adopted due to the COVID-19 pandemic and will only be in place during its duration. The policy may also be invoked due to any events or emergencies during which the university’s [Continuity of Learning Plan](#) is in place or when warranted due to an event or emergency at the clinical site that prevents in-person attendance. At any point, the JRCERT or Suffolk University may update or create new policies which will require changes to this policy.

When students are allowed to be in clinic (by both the hospital and university), ***they will complete clinical practica in-person during the fall and spring semesters.*** If students are doing in-person clinical education, they *must* be provided the appropriate Personal Protective Equipment (PPE) by the hospital. Student must also adhere to clinical site Covid policies during clinical education assignments.

## **Summer Internship**

As a result of the Covid-19 pandemic, most of our clinical affiliates have adopted a hybrid work format where dosimetrists may work a few days remotely. While it is not clear that this format is permanent, some clinical sites have indicated that it will be in place for the foreseeable future. Unlike the spring and fall clinical practica, the summer internship is full time with students in clinic for five 8-hour days, or four 10-hour days, which means there is a higher chance of exceeding limitations on number of people allowed on site. Students will be permitted, in consultation with the clinical site, to attend clinic in a hybrid format where no more than 50% of clinical hours in a given week are completed remotely. For all students, remote attendance will be limited to 2 days in any one week.

## **JRCERT Policy on Remote Clinical Education**

Effective Sept 2022, medical dosimetry programs may permit students to participate in remote clinical education that is delivered via distance education without JRCERT approval ***as long as no more than 50% of the clinical hours are completed remotely.*** Students must still be supervised appropriately according to the 2021 Standards for an Accredited Educational Program in Medical Dosimetry (Standard Five, Objective 5.3 - Assures that all medical dosimetry calculations and treatment plans are approved by a credentialed practitioner prior to implementation).

## **Direct Supervision**

All medical dosimetry calculations and treatment plans must be approved by a credentialed practitioner prior to implementation. Students must inform the dosimetrist supervising them on a particular case when a clinical plan (that will be used for treatment) is ready to be reviewed so that the dosimetrist and the physician can review and approve the plan before implementation.

To ensure that direct supervision is occurring, students and the supervising dosimetrist must be able to log into a hospital-approved video conferencing system that has the capability to share screens. Students are encouraged to have video turned on and the screen must be shared during plan review.

## **Communication**

Students must use a video conferencing system to share screens (Zoom, Microsoft Teams, Google Meet, etc.). If sharing patient information, video conferencing must be hospital approved. At a minimum, the students and supervising dosimetrist are expected to verbally communicate twice a day. The students should receive communication of the following, at the beginning of their clinical day:

- Expectation for planning/workload
- What should be accomplished by the end of the day
- When the instructor is available for questions

## **Weekly Journal**

Students will continue to provide a summary of their clinical activities. This journal will be submitted weekly through E\*Value and should not include patient information. The journal will be reviewed by the Clinical Coordinator once a week.



## **Part III: Suffolk University Policies**

Suffolk University policies apply to all students in the Medical Dosimetry program. The policies can be found in the **Suffolk Student Handbook**, which can be accessed by clicking [here](#). The handbook includes university policies, student rights and responsibilities, academic information and a host of additional helpful information.

Please see the links below for specific information on topics listed.

**[University Academic Calendar](#)**

**[Federal Credit Hour Definition](#)**

**[Personal Counseling Information](#)**

**[Academic Resources and Student Support](#)**

**[Office of Disability Services](#)**

**[University Attendance and Absence Policy Link](#)**

## APPENDICES

### Appendix A- Travel Agreement

Suffolk University has a variety of clinical sites for training purposes in the field of Medical Dosimetry. As a student in the program, you may be required to complete rotations at any of these sites and are therefore obligated to obtain transportation to and from each site, without responsibility to the University.

The list of affiliates is as follows:

Brigham and Women's Hospitals & Dana-Farber Cancer Institute, Boston, MA -  
*Accessible via MBTA*

Massachusetts General Hospital (MGH): Boston, MA -*Accessible via MBTA*

MGH at North Shore Cancer Center: Danvers, MA - *Accessible via MBTA plus taxi/Uber/Lyft ride but not convenient and can lead to long commute times*

MGH Newton-Wellesley Hospital: Newton, MA - *Accessible via MBTA*

MGH Emerson Hospital: Concord, MA (\*inactive for 2023-2024) - *Requires own transportation*

DFCI/Brigham and Women's Hospital at Milford Hospital: Milford, MA - *Requires own transportation*

Beth Israel-Lahey Health: Burlington, MA - *Accessible via MBTA subway plus bus ride*

Rhode Island Hospital: Providence, RI- *Requires own transportation*

Dana Farber Cancer Institute/Brigham Cancer Center at South Shore Hospital:  
Weymouth, MA – *Accessible via MBTA plus bus ride*

By signing below, you acknowledge your responsibility to provide your own transportation to any of these affiliates for clinical training in the Medical Dosimetry Program.

I have read and understood the Travel Agreement. (please initial)

---

# Appendix B- CT Based Competency Evaluation Form

Preview Form



## Suffolk University Medical Dosimetry

**Subject:**  
**Evaluator:**  
**Site:**  
**Period:**  
**Dates of Course:**  
**Course:** Medical Dosimetry Practicum II  
**Form:** CT Plan Competency Evaluation

For each task below, please indicate the student's performance as a Pass, or Fail. If the task does not apply, please indicate non-applicable (N/A)

**\*\*Failures of \* Tasks are automatic Failures\*\***

(Question 1 of 6)

TASK	Fail	Pass	N/A
Reviews patient's medical history	1.0	2.0	0
Attends patient's simulation under direct supervision	1.0	2.0	0
Verifies patient name and medical record number in chart and R&V System	1.0	2.0	0
Reviews physician prescription and written directive	1.0	2.0	0
Correctly loads planning image set into the planning computer	1.0	2.0	0
Reviews physician's contours and ensures they correlate with written directive	1.0	2.0	0
Correctly contours normal anatomy, or modifies AI contoured structures, with minimal to no edits required	1.0	2.0	0
Correctly creates target expansions per the written directive	1.0	2.0	0
*Selects or uses appropriate isocenter(s)	1.0	2.0	0
*Creates treatable plan using appropriate beam arrangement and beam modifying devices (blocks, MLCs, wedges, bolus)	1.0	2.0	0
Uses appropriate beam weighting to generate the plan	1.0	2.0	0
*Uses appropriate energies to generate the plan	1.0	2.0	0
*Prescribes the correct daily dose to the prescription point	1.0	2.0	0
*Uses the correct number of fractions	1.0	2.0	0
Correctly generates dose volume histogram(s)	1.0	2.0	0
*Reviews treatment plan with planner then with physician for approval	1.0	2.0	0
Applies correct plan rescale according to physician isodose line choice	1.0	2.0	0
Correctly exports appropriate plan data to R&V and monitor unit check program	1.0	2.0	0
Correctly performs secondary monitor unit verification for each treatment field	1.0	2.0	0
Correctly programs all required treatment parameters in patient's chart	1.0	2.0	0
Ensures the plan is approved by a certified dosimetrist/physicist before treatment	1.0	2.0	0
Attends the patient's verification simulation and 1st treatment under direct supervision	1.0	2.0	0

### Assessment of Overall Performance

**Professionalism: (Affective Assessment)** (Question 2 of 6)

Completely unprofessional in approach and has no regard for clinical policies and procedures	Professional in approach and generally complies with clinical policies and procedures	Exceptional in professional approach and consistently adheres to clinical policies and procedures
1	2	3

**Student's Technical Performance: (Psychomotor Assessment)** (Question 3 of 6)

Not prepared, lacked an organized approach, poor attention to detail	Adequately prepared and organized in approach. Good attention to detail and accuracy	Efficient, extremely well prepared in overall approach, very precise and exceptional attention to detail
1	2	3

**Knowledge Comprehension: (Cognitive Assessment)** (Question 4 of 6)

Inadequate or too limited to accurately completing the treatment planning task	Adequate understanding of basic planning concepts.	Above average or comprehensive understanding of the basic planning concepts
1	2	3



CT Plan Competency: Comments (Question 5 of 6 )

Did student successfully complete the competency? (Question 6 of 6 - Mandatory )

Fail	Pass
1	2

## Appendix C- Clinical Performance Evaluation Form Professionalism- The Affective Domain

**Subject:**  
**Evaluator:**  
**Site:**  
**Period:**  
**Dates of Course:**  
**Course:** Evaluation Preview  
**Form:** Clinical Performance Evaluation

(Question 1 of 8 )

Professionalism: The Affective Domain	F: Does not meet program goals	D: Inconsistently meets program goals	C: Meets program goals with significant assistance	B: Consistently meets program goals	A: Demonstrates exceptional performance	N/A
Appearance	1.0	2.0	3.0	4.0	5.0	0
Punctuality	1.0	2.0	3.0	4.0	5.0	0
Collegial and easily converses with other staff	1.0	2.0	3.0	4.0	5.0	0
Maintains patient confidentiality and respects patient privacy	1.0	2.0	3.0	4.0	5.0	0
Follows clinical policies and procedures	1.0	2.0	3.0	4.0	5.0	0
Team player, cooperates with all clinical staff	1.0	2.0	3.0	4.0	5.0	0
Aspires to meet highest standards through continued learning and self improvement	1.0	2.0	3.0	4.0	5.0	0
Receptive to and learns from constructive criticism	1.0	2.0	3.0	4.0	5.0	0
Takes initiative without being asked	1.0	2.0	3.0	4.0	5.0	0
Asks appropriate questions	1.0	2.0	3.0	4.0	5.0	0

## Comprehension- The Cognitive Domain

(Question 3 of 8 - Mandatory )

<b>Comprehension: The Cognitive Domain</b>	F: Does not meet program goals	D: Inconsistently meets program goals	C: Meets program goals with significant assistance	B: Consistently meets program goals	A: Demonstrates exceptional performance	N/A
Demonstrates an understanding of basic radiation physics	1.0	2.0	3.0	4.0	5.0	0
Retains and utilizes didactic principles for standard planning techniques	1.0	2.0	3.0	4.0	5.0	0
Adequate ability to modify standard planning technique to suit specific patient geometries	1.0	2.0	3.0	4.0	5.0	0
Understands correlation between oncologic principles and treatment planning goals	1.0	2.0	3.0	4.0	5.0	0
Strives to achieve optimal plan quality while maintaining reasonable delivery time	1.0	2.0	3.0	4.0	5.0	0
Demonstrates understanding of normal tissue tolerances and associated side effects	1.0	2.0	3.0	4.0	5.0	0

**Comprehension: The Cognitive Domain: Comments** (Question 4 of 8 - Mandatory )

## Treatment Planning- The Psychomotor Domain

(Question 5 of 8 - Mandatory )

<b>Treatment Planning: The Psychomotor Domain</b>	F: Does not meet program goals	D: Inconsistently meets program goals	C: Meets program goals with significant assistance	B: Consistently meets program goals	A: Demonstrates exceptional performance	N/A
Reviews all pertinent patient information before initiating planning	1.0	2.0	3.0	4.0	5.0	0
Attention to detail and accuracy in all aspects of the planning process	1.0	2.0	3.0	4.0	5.0	0
Proficiency in accurately performing hand calculations and independent monitor unit checks	1.0	2.0	3.0	4.0	5.0	0
After sufficient practice, is able to independently produce treatable plans	1.0	2.0	3.0	4.0	5.0	0
Able to defend plan and explain choices of parameters during plan review	1.0	2.0	3.0	4.0	5.0	0
Prioritizes and completes treatment planning tasks in a timely fashion	1.0	2.0	3.0	4.0	5.0	0
Proficient in use of various software programs used in treatment planning	1.0	2.0	3.0	4.0	5.0	0
Demonstrates effective verbal and written communication skills during plan implementation	1.0	2.0	3.0	4.0	5.0	0
Demonstrates ability to resolve discrepancies in planning and patient setup	1.0	2.0	3.0	4.0	5.0	0

**Treatment Planning: The Psychomotor Domain: Comments** (Question 6 of 8 - Mandatory )

**Performance Evaluation: General Comments of evaluator(s):** (Question 7 of 8 - Mandatory )

## Appendix D- MRI Safety Screening Protocol

### MAGNETIC RESONANCE (MR) ENVIRONMENT SCREENING FORM-Students\*

MR systems have a very strong magnetic field that may be dangerous for individuals with certain metallic, electronic, magnetic, or mechanical implants, devices, or objects. Do not enter the MR environment or MR system room if you have any questions or concerns regarding an implant, device, or object.

Name: \_\_\_\_\_

Please indicate if you have any of the following:

- |                              |                             |   |
|------------------------------|-----------------------------|---|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Aneurysm clip(s)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Cardiac pacemaker   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Implanted cardioverter defibrillator (ICD)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Electronic implant or device  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Magnetically-activated implant or device  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Neurostimulation system   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Spinal cord stimulator  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Internal electrodes or wires  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Bone growth/bone fusion stimulator  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Cochlear, otologic, or other ear implant  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Hearing aid   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Insulin or other infusion pump  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Implanted drug infusion device  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Any type of prosthesis (eye, penile, etc.)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Heart valve prosthesis  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Eyelid spring or wire   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Artificial or prosthetic limb   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Metallic stent, filter, or coil   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Shunt (spinal or intraventricular)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Vascular access port and/or catheter  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Radiation seeds or implants   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Swan-Ganz or thermodilution catheter  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Medication patch (Nicotine, Nitroglycerine)   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Any metallic fragment or foreign body (metallic shavings, shrapnel, BBs, bullets, etc.) |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Wire mesh implant   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Tissue expander (e.g., breast)  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Surgical staples, clips, or metallic sutures  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Joint replacement (hip, knee, etc.)   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Bone/joint pin, screw, nail, wire, plate, etc.  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | IUD, diaphragm, or pessary  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Dentures or partial plates  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Tattoo or permanent makeup  |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Body piercing jewelry   |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Other implant _____   |

1. Are you pregnant or suspect that you are pregnant?

☐ Yes ☐ No



## Warning



Before entering the MR environment or MR system room, you must remove all metallic objects including hearing aids, dentures, partial plates, keys, beeper, cell phone, eyeglasses, hair pins, barrettes, jewelry, body piercing jewelry, watch, safety pins, paperclips, money clip, credit cards, bank cards, magnetic strip cards, coins, pens, pocket knife, nail clipper, tools, clothing with metal fasteners, & clothing with metallic threads.

Please consult the MRI Technologist or Radiologist if you have any question or concern BEFORE you enter the MR system room.

I attest that the above information is correct to the best of my knowledge. I have read and understand the entire contents of this form and have had the opportunity to ask questions regarding the information on this form. **If my screening status changes, I will notify the program.**

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

## **Appendix E- Pregnancy Policy**

In the event that a Medical Dosimetry student becomes pregnant, they may choose to declare their pregnancy, since there is a potential risk to the developing fetus from radiation exposure. If the student chooses to declare the pregnancy, the student shall notify the Medical Dosimetry Program Director in writing that they are pregnant. A copy of this declaration shall be maintained by the Program Director. If the student chooses not to declare a pregnancy the result will exempt the student from the state radiation protection regulations found in 105CMR.

Students entering the Medical Dosimetry Program shall acknowledge they have been informed of the pregnancy policy and procedure as outlined below. Any student who voluntarily discloses pregnancy may withdraw their notice of pregnancy at any time in writing to the Program Director.

Pregnant students will be permitted to continue in the clinical portion of the program as long as long as their embryo/fetal exposures are in conformance with the requirements of 105CMR120.218. If the student chooses to remain in the clinic all efforts must be made by the student to ensure that exposure does not exceed 500 mrem (5 millisieverts) for the entire gestation period. If the student voluntarily chooses this option, they will be encouraged to do the following:

When in the clinic, a radiation-monitoring badge (Fetal Badge) should be worn at the waistline in addition to the usual TLD to monitor the maximum permissible dose. The maximum permissible risk per the CMR is 500 mrem (5 mSv) for the entire gestational period. Wearing this badge will allow for the Radiation Monitoring service to notify the student if and when 80% (400 mrem) of the maximum permissible risk has been received, or if the monthly limit of 50 mrem has been reached or exceeded. If the maximum permissible risks are reached, the Program Director and the student can construct an alternative plan that does not involve active participation in the clinic. To further minimize any risk to the embryo/fetus, the student should always exercise their knowledge of radiation safety methods.

The Medical Dosimetry Program offered through Suffolk University and its clinical affiliates intends to offer its students the highest degree of radiation protection and monitoring possible. However, the program will not be responsible for injury to either the parent or embryo/fetus due to radiation exposure.

A pregnant student who chooses not to remain in the clinic has the following two (2) options:

1. They may request a leave of absence from the rotation though attendance for all didactic courses will be required. In addition, all of the clinical rotation time and exams will need to be completed within the following academic year.
2. They may submit a letter to the Program Director stating their intention to withdraw from the program. If at a later date the student would like to re-enter the program, they will be required to complete the application process for readmission.

I have read and understood the Pregnancy Policy. (please initial)

---

## **Appendix F- Diseases Reportable to Massachusetts Local Boards of Health**

Amebiasis  
Anaplasmosis  
Anthrax  
Arbovirus infection including, but not limited to, infection caused by:  
chikungunya virus, dengue, eastern equine encephalitis virus, Jamestown Canyon virus,  
West Nile virus, yellow fever virus, and Zika virus  
Babesiosis  
Botulism  
Brucellosis  
Campylobacteriosis  
Cholera  
COVID-19  
Creutzfeldt-Jakob disease or variant Creutzfeldt-Jakob disease  
Cryptosporidiosis  
Cyclosporiasis  
Diphtheria  
Ehrlichiosis  
Encephalitis, any cause  
Foodborne illness due to toxins (including mushroom toxins, ciguatera toxins, scombrototoxin,  
tetrodotoxin, paralytic shellfish toxin and amnesic shellfish toxin, staphylococcus  
enterotoxin, and others)  
Giardiasis  
Glanders  
Group A streptococcus, invasive infection  
Group B streptococcus, invasive infection in children younger than one year old  
Haemophilus influenzae, invasive infection  
Hansen's disease (leprosy)  
Hantavirus infection  
Hemolytic uremic syndrome (HUS)  
Hepatitis A  
Hepatitis B  
Hepatitis C  
Hepatitis D  
Hepatitis E  
Hepatitis syndrome, acute  
Influenza  
Legionellosis  
Listeriosis  
Lymphocytic choriomeningitis  
Lymphocytic choriomeningitis virus infection  
Lyme disease  
Malaria  
Measles  
Meliodosis  
Meningitis, bacterial, community-acquired

Meningitis, viral (aseptic) or other infectious (non-bacterial)  
Meningococcal disease, invasive infection (with *N. meningitidis*)  
Mumps  
Norovirus infection  
Pertussis  
Plague  
Poliomyelitis  
Powassan  
Pox virus infections in humans, including variola (smallpox), monkeypox, vaccinia, and other orthopox or parapox viruses  
Psittacosis  
Q Fever  
Rabies in humans  
Respiratory infection due to a novel or unusual coronavirus, causing severe disease in humans including, but not limited to, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS).  
Reye syndrome  
Rickettsialpox  
Rocky Mountain spotted fever  
Rubella  
Salmonellosis  
Shigellosis  
Shiga toxin-producing organisms isolated from humans, including enterohemorrhagic *E. coli* (EHEC)  
Streptococcus pneumoniae, invasive infection in individuals younger than 18 years of age  
Tetanus  
Toxic shock syndrome  
Trichinosis  
Tularemia  
Typhoid Fever  
Typhus  
Varicella (chickenpox)  
Vibriosis (non-Cholera)  
Viral hemorrhagic fevers including, but not limited to, infection caused by Ebola virus, Marburg virus and other filoviruses, arenaviruses, bunyaviruses and flaviviruses  
Yersiniosis



## **Appendix G- Rhode Island Reportable Diseases & Conditions**

### **Immediately Reportable Diseases & Conditions**

ALL Clusters and Outbreaks (Including noro-like illness, flu and other respiratory diseases)

Novel or emerging respiratory viruses

Unexplained death (possibly due to unidentified infectious causes)

Animal bites

Chikungunya Virus Infection (Chikungunya)

Ciguatera (Harmful Algae Blooms (HABs))

COVID-19 (Coronavirus Disease 2019)

Diphtheria

Eastern Equine Encephalitis (EEE)

Encephalitis Arboviral or parainfectious

Hantavirus Pulmonary Syndrome (HPS)

Hepatitis A (Hep A), Note: Report AST, ALT and bilirubin also

Measles

Meningococcal Disease Bacterial (Meningitis, bacterial), Note: Invasive Disease only: confirmed by isolation from blood, CSF, pericardial fluid, pleural fluid, peritoneal fluid, joint fluid, or other normally sterile site.

Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

Monkeypox

Paralytic Shellfish Poisoning (Paralytic Shellfish Poisoning, Ciguatera)

Poliomyelitis (Polio)

Powassan

Pustular Rash diseases (Small pox, monkeypox, cowpox)

Rabies

Scombroid

Staphylococcal Infection Vancomycin Intermediate (VISA)

Staphylococcal Infection Vancomycin Resistant (VRSA)

Typhoid Fever Group D

Vibrio cholerae (Cholera)

Vibriosis (Vibrio)

West Nile Virus

Yellow Fever

Zika Virus Infection (Zika)

### **Potential Agents of Bioterrorism**

Anthrax

Botulism

Brucellosis

Clostridium Perfringens (Epsilon Toxin)

Ebola Hemorrhagic Fever (Ebola)

Glanders

Melioidosis

Plague; Bubonic, Septicemic, Pneumonic (Plague)

Q-Fever

Ricin Poisoning  
 Smallpox  
 Staphylococcal Food Poisoning Enterotoxin - B Poisoning (Staph Food Poisoning)  
 Tularemia (Rabbit fever)  
 Viral Hemorrhagic Fever (Ebola, Lassa, Marburg)  
 Report within 4 days of recognition  
 Acute Flaccid Myelitis (AFM)  
 Anaplasmosis  
 Babesiosis  
 Campylobacteriosis  
 Carbapenem-resistant Infection (CRE/CRPA)  
 Chancroid  
 Chlamydia  
 Coccidioidomycosis fungal infection (Valley fever)  
 Creutzfeldt-Jacob Disease transmissible spongiform encephalopathy (CJD)  
 Cryptosporidiosis (Crypto)  
 Cyclosporiasis  
 Dengue 1,2,3,4 (Dengue Fever)  
 E. coli infection Shiga toxin-producing (STEC)  
 Ehrlichiosis  
 Giardiasis (Giardia)  
 Gonococcal Infection (Gonorrhea)  
 Granuloma inguinale  
 Haemophilus Influenza disease Type B (Hib or H-flu) , Note: Invasive Disease only: confirmed by isolation from blood, CSF, pericardial fluid, pleural fluid, peritoneal fluid, joint fluid, or other normally sterile site.  
 Hemolytic Uremic Syndrome (HUS)  
 Hepatitis B (Hep B), Note: Report AST, ALT and bilirubin also  
 Hepatitis C (Hep C), Note: Report AST, ALT and bilirubin also  
 Hepatitis D (Hep D), Note: Report AST, ALT and bilirubin also  
 Hepatitis E (Hep E), Note: Report AST, ALT and bilirubin also  
 Human Immunodeficiency Virus/AIDS (HIV/AIDS), Note: Report pregnancy in women with HIV.  
 Influenza (Flu)  
 Legionellosis (Legionnaires Disease)  
 Leprosy (Hansens Disease)  
 Leptospirosis  
 Listeriosis (Listeria), Note: Invasive Disease only: confirmed by isolation from blood, CSF, pericardial fluid, pleural fluid, peritoneal fluid, joint fluid, or other normally sterile site.  
 Lyme Disease  
 Lymphogranuloma venereum infection (LGV)  
 Malaria  
 Meningitis Viral (Meningitis, viral), Note: all suspected types (aseptic, bacterial, fungal, or viral)  
 Multisystem Inflammatory Syndrome in Children (MIS-C)  
 Mumps  
 Pelvic Inflammatory Disease (PID)  
 Pertussis (Whooping Cough)  
 Pneumococcal Disease (Pneumonia), Note: Invasive Disease only: confirmed by isolation from blood, CSF, pericardial fluid, pleural fluid, peritoneal fluid, joint fluid, or other normally sterile site.

Psittacosis (Parrot Fever)  
Rickettsiosis (Rocky Mountain Spotted Fever)  
Rubella Including congenital (German Measles)  
Salmonellosis gastroenteritis (Salmonella)  
Shigellosis gastroenteritis (Shigella)  
Streptococcal Disease Group A (invasive) (Strep A (invasive)) , Note: Invasive Disease only: confirmed by isolation from blood, CSF, pericardial fluid, pleural fluid, peritoneal fluid, joint fluid, or other normally sterile site.  
Streptococcal Disease Group B (Strep-B), Note: Invasive Disease only: confirmed by isolation from blood, CSF, pericardial fluid, pleural fluid, peritoneal fluid, joint fluid, or other normally sterile site.  
Streptococcal Toxic-Shock Syndrome STSS, Toxic Shock (STSS, TSS)  
Syphilis primary, secondary, early latent, late latent, congenital  
Tetanus Infection tetani (Lock Jaw)  
Trichonosis Infection (Trichinosis)  
Tuberculosis (TB), Note: all sites PPD + in children < 6  
Tuberculosis (Latent) (LTBI)  
Typhus  
Varicella (Chickenpox), Note: Associated Deaths  
Yersenia (Yersinia)

*Last revised Oct, 2023*