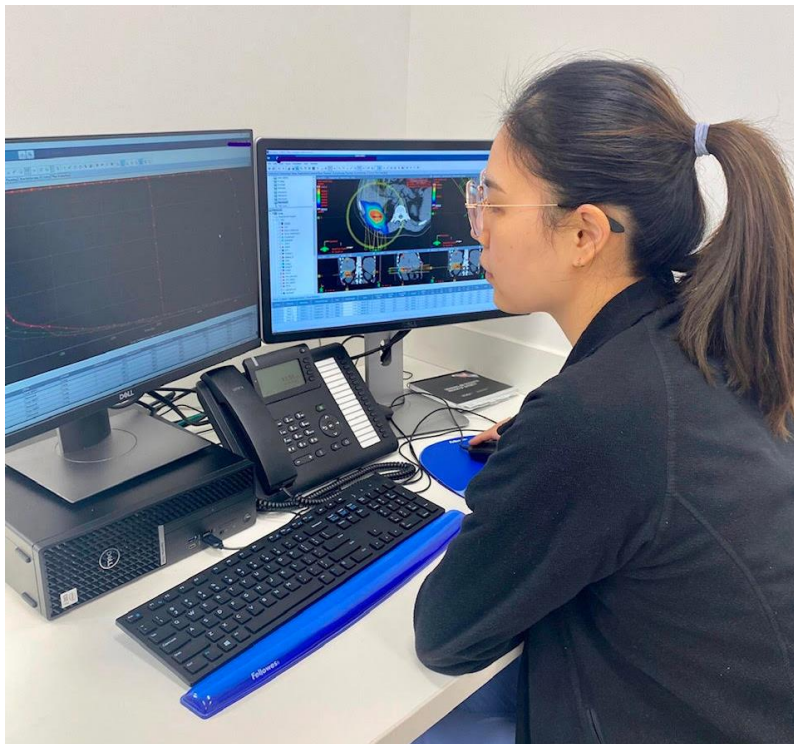




Medical Dosimetry Clinical Non-Credit, Non-Degree Certificate Program Student Handbook 2022 – 2023



Mount Sinai Center for Radiation Science Education

In collaboration with
The School of Health Profession's Health Science major

Revised May 24, 2022



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Greetings from the Program Director

On behalf of the Mount Sinai Center for Radiation Sciences Education at Stony Brook University, I welcome you as our students! We join you in anticipation of a rewarding educational experience at our institution as you prepare for careers as medical dosimetrists.

We at Mount Sinai are committed to providing compassionate, competent patient care in addition to an exciting and healthy environment for all students in the classroom, and throughout our clinical locations.

The field of radiation oncology is dynamic and incredibly rewarding. We are thrilled to watch you learn and grow under our guidance.

Again, welcome to the team and best wishes for a productive year.



Vishruta Dumane, PhD

Medical Dosimetry Program Director



About the Program

About the Mount Sinai Health System

The Mount Sinai Health System is an integrated health care system providing exceptional medical care to our local and global communities. Encompassing the Icahn School of Medicine at Mount Sinai and seven hospital campuses in the New York metropolitan area, as well as a large, regional ambulatory footprint, Mount Sinai is acclaimed internationally for its excellence in research, patient care, and education across a range of specialties. The Mount Sinai Health System was created from the combination of The Mount Sinai Medical Center and Continuum Health Partners, which both agreed unanimously to combine the two entities in July 2013.

Mount Sinai Mission

The mission of the Mount Sinai Health System is to provide compassionate patient care with seamless coordination and to advance medicine through unrivaled education, research, and outreach in the many diverse communities we serve.

Mount Sinai Vision

The Mount Sinai Health System's vision is to continue to grow and challenge convention through our pioneering spirit, scientific advancements, forward-thinking leadership, and collaborative approach to providing exceptional patient care in the many unique communities we serve.

The Mount Sinai Center for Radiation Sciences Education at Stony Brook University Mission Statement

The mission of the Medical Dosimetry Program is to optimize the knowledge, attitudes and skills of our students by preparing them to meet the daily challenges of a Medical Dosimetrist in the dynamic field of Radiation Oncology. Through clinical work and didactic lessons, students will hone the skills that are required to serve our patients in the community while maintaining ethical standards and professionalism in and out of the clinic. They will become an integral part of the health care team in the battle against cancer and leaders in providing the highest level of patient care.

Stony Brook School of Health Professions

<https://healthprofessions.stonybrookmedicine.edu/>

Program Accreditation

The Mount Sinai Center for Radiation Sciences Education at Stony Brook University – Medical Dosimetry Program maintains accreditation through Middle States Commission on Higher Education and has applied for initial accreditation by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The JRCERT is the only

agency recognized by the United States Department of Education and the Council on Higher Education Accreditation for the accreditation of traditional and distance delivery educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry. The JRCERT awards accreditation to programs demonstrating substantial compliance with the standards found in appendix 16.

Medical Dosimetry Program Curriculum:

Stony Brook Health Science Major Education:

- Stony Brook Health Science Major Education:
- Human Anatomy and Physiology for Health Science I & II
- Research Methods in Health Science
- Human Anatomy, Health and Medical Language
- Health Care Issues
- Communication Skills
- Professional Ethics
- Health Care Informatics
- Scholarly Writing in Health Science
- Radiation Physics in Medicine
- Intro to Treatment Planning
- Radiobiology and Health Physics
- Radiographic Anatomy and Pathology
- Radiation Oncology/Medical Physics II
- Introduction to Pathology

Clinical Year Education:

Orientation to Medical Dosimetry

Mini-courses:

- Radiation Oncology
- Simulation
- Clinical Anatomy
- Patient Care
- Treatment Planning
- Professionalism
- Physics/QA
- Communications
- Board Review

Specialty-Rotations:

- Brachytherapy rotation
- Physician rotation
- Therapy Rotation
- New York Proton Center rotation

Program Goals & Student Learning Outcomes

Goal 1: Students will demonstrate clinical competence of an entry-level medical dosimetrist

Student Learning Outcomes:

1. Students will complete treatment planning as prescribed by a radiation oncologist.
2. Students will demonstrate basic knowledge and understanding relative to each site-specific planning.

Goal 2: Students will possess critical thinking skills

Student Learning Outcomes:

1. Students will adequately respond to challenges faced during treatment planning.
2. Students will show the ability to perform multiple tasks in a timely manner

Goal 3: Students will practice with professional values

Student Learning Outcomes:

1. Students will display professional conduct
2. Students demonstrate life-long learning

Goal 4: Students will display effective communication skills

Student Learning Outcomes:

1. Students will demonstrate written communication skills
2. Students will demonstrate oral communication skills

Clinical Year Faculty & Leadership

	Kenneth Rosenzweig, MD	Mount Sinai Radiation Oncology Professor and Chair
	Kimberly Smith, MS	Mount Sinai Radiation Oncology Vice Chair, Administration
	Samantha Skubish, MS, RT(R)(T)	Mount Sinai Radiation Oncology Chief Technical Director
	Deborah Zelizer, PhD, LCSW	Stony Brook University SHP Chair Deborah.zelizer@stonybrook.edu Office: (631) – 444 - 6158
	Maria Dimopoulos, MBA, RT(T)	Mount Sinai Center for Radiation Sciences Education Associate Director, Radiation Therapy Program Director Maria.dimopoulos@mountsinai.org Cell: (646) 951 - 7969
	Vishruta Dumane, PhD	Mount Sinai Center for Radiation Sciences Education Medical Dosimetry Program Director Vishruta.dumane@mountsinai.org Office: (212) 241 - 5118



Clinical Locations & Departmental Supervisors

The Medical Dosimetry Program has a meaningful clinical education plan that assures each student is provided with a meaningful and equitable educational experience and that each student is able to complete all required competencies during their tenure in the Dosimetry clinical non-credit, non-degree certificate program (second year of the program). This is achieved by requiring all students to complete a clinical rotation at each clinical treatment campus where students are exposed to a wide range of planning techniques.

All clinical rotations are conducted across the Mount Sinai Health System. The Mount Sinai Health System is one of the largest health systems within the region, as such, the department is able to provide students with a wide range of procedures to achieve competency requirements put forth by JRCERT. Mount Sinai Radiation Oncology includes 3 clinical treatment locations; in combination there are 11 treatment machines, 5 simulators and brachytherapy offered at each location. Students are to report to the clinical dosimetry preceptor of each Mount Sinai Radiation Oncology location. Students gain hands on learning with various therapeutic and planning technologies including but not limited to: SRS, SBRT, TBI, CSI, IMRT, 4DCT, Fluro, DIBH, gating, compression, alignrt, exactrac and CBCT. To ensure equity in the educational experience all students are required to rotate through each treatment location to gain the required clinical experience with all specialty procedures. Additionally, Mount Sinai is a partner in the New York Proton Center. As such, Medical Dosimetry students also complete an observational rotation in proton planning. A map of all clinical year locations can be found in Appendix 12.

Mount Sinai Hospital

Mount Sinai Hospital – 1184 Building

Address: 1184 5th Ave (1184 Building MC Level), New York, NY 10029

Clinical Preceptor: Alan Yu | 212-241-4968 | alan.yu@mountsinai.org

Mount Sinai Hospital – Hess Building

Address: 1470 Madison Ave (Hess Building SC Level), New York, NY 10029

Clinical Preceptor: Alan Yu | 212-241-4968 | alan.yu@mountsinai.org

Mount Sinai West

Mount Sinai West

Address: 1000 10th Ave (Main elevators to LL), New York, NY 10019

Clinical Preceptor: Victoria Olsen | (212) 523-7518 | victoria.olsen@mountsinai.org

Mount Sinai Downtown

Mount Sinai Downtown - Union Square

Address: 10 Union Square East (SC Level), New York, NY 10003

Clinical Preceptor: Si Ning Chen | (212) 244-6249 | siningchen@mountsinai.org



Mount Sinai Downtown - The Blavatnik Family – Chelsea Medical Center at Mount Sinai

Address: 325 W 15th Street, New York, NY 10011

Clinical Preceptor: Si Ning Chen | (212) 244-6249 | siningchen@mountsinai.org

New York Proton Center

New York Proton Center

Address: 225 East 126th Street, New York, NY, 10035

Clinical Preceptor: Andy Shim | (646) 968-9034 | ashim@nyproton.com

MOUNT SINAI RESOURCES

Recreation Office

The Recreation Office offers a wide range of discounts to promote work/life balance and the enjoyment of many of New York City's cultural events. The office provides discounted tickets, promotions, and services that include Broadway and Off-Broadway shows, movies, sporting events, amusement parks, restaurants, health clubs and spas, hotels, cell phone service, car rentals.

All discounts require a valid Mount Sinai Health System ID.

19 East 98 Street, Room 2F

212-241-6660

Recreation.mountsinaihealth.org

Bookstore

At the Posman Collegiate Bookstore, students can order popular books, purchase supplies, food and gifts. The Bookstore is located on the ground floor of the Annenberg Building.

Library

Students have access to the Icahn School of Medicine library at Annenberg 11 with their Mount Sinai student ID. Library hours and details can be found at:

<https://icahn.mssm.edu/about/ait/levy-library>

TUITION/REFUND POLICY

Tuition will be charged at the rate of \$7,500 for the clinical year plus applicable university fees (university fees can be found at: www.stonybrook.edu/commcms/sfs/tuition/certificate-program). This annual tuition will be collected by the Program before the initial meeting of the program. The tuition fee shall be made payable to the School of Health Profession's. A student shall not be permitted to attend classes or clinical education beyond the posted tuition deadline dates without receipt of tuition and insurance payment or approved payment voucher.

Refund of Tuition:

Students who withdraw from the Medical Dosimetry clinical non-credit, non-degree certificate year of the program are liable for payment of tuition in accordance with the following schedule:

Withdrawal during	Liability
First week	0%
Second week	30%
Third week	50%
Fourth week	70%
Fifth week	100%

Orientation will be held on the first day of the program. Absence from classes does not constitute an official withdrawal and does not relieve the student of their financial obligation, nor entitle the student to a refund. Students must officially request to withdraw, in writing, to the Dean's Office.

Students will be responsible for other fees incurred during the duration of the program. Such fees included but are not limited to:

- Professional liability insurance \$30
- Health clearance and toxicology screening as required by clinical sites via Castle Branch \$78

Health Insurance (required): Students can purchase the university plan or show proof of private insurance

**Other Program and Professional
Estimated Required Expenses***

Textbook	\$100.00
Laptop	\$750.00
Castle Branch screening and compliance platform - general access**	\$43.00
Castle Branch screening and compliance platform – toxicology screening**	\$35.00
Professional liability insurance	\$30.00
National Professional Society Student Membership (AAMD)	\$80.00
Registration fee for national exam (MDCB exam)	\$575.00

Note: * there will be transportation expenses to clinical rotation sites; **these prices have been negotiated and discounted with Castle Branch.

CLINICAL EDUCATION HOURS

Students enrolled in the Medical Dosimetry Program must complete a minimum of **235 days (1,645 hours)** of supervised clinical education and all clinical evaluations of students must be a minimal **pass/satisfactory** to qualify for graduation.

- **Assignments to all Mount Sinai clinical education centers:**

NO STUDENT WILL BE PERMITTED TO ENTER THE CLINICAL SETTING OR ATTEND ORIENTATION WITHOUT A COMPLETED HEALTH FORM AND THE REQUIRED IMMUNIZATIONS AND HEALTH AND LIABILITY INSURANCE.

One-Year Clinical Education Session

- Orientation is mandatory and begins the start of clinical year.
- Each student will be assigned to a clinical education center five days a week (Monday through Friday) 9 a.m. To 5 p.m. Clinical hours may vary according to site, e.g., 7:00 a.m. – 3:00 p.m. With one-hour lunch breaks at the discretion of the instructor(s) for the duration of the clinical rotation.
- Mini Courses will be scheduled throughout the year, taking place Wednesday or Friday mornings across Mount Sinai locations – schedule to be determined.
- On a case by case basis, the program director may make a recommendation to the Dean of SHP to extend the length of the program for students who need time off for extended illness, family sick leave, or personal leave may be approved to extend their clinical training session no later than June 28th of the final semester.
 - To request a leave of absence from the program for personal or medical reasons, students must follow the policies and procedures outlined in the SHP handbook.
 - Each student will be assigned to a clinical education session five, eight-hour days per week (9:00 a.m. – 5:00 p.m.) For the remainder of the time necessary to complete the minimum 235 days (1,645 hours) and must accompany satisfactory and timely evaluations of ***all*** required clinical and behavioral objectives. Only then, will the student be reviewed to determine if they are qualified to graduate.

ACADEMIC CALENDAR, ATTENDANCE AND PUNCTUALITY

The Mount Sinai Center for Radiation Sciences Education at Stony Brook University is a two-year, full-time program that begins during the fall semester of the senior year at Stony Brook University in the Health Science major and continues through a 12-month clinical non-credit, non-degree certificate program at Mount Sinai Health System. The clinical certificate program starts in June and is completed the following June. Clinical certificate program's didactic mini-courses are held on Wednesday or Friday mornings. Students are assigned to clinical rotations at various Mount Sinai Health System locations the remainder M-F, 9am-5pm.

The presence of students in the clinical facility must in no way alter the routine work schedule of the department, or inconvenience patients, or staff. Therefore, **dependability** and **punctuality** are essential. Students shall not be deemed as employees of Mount Sinai for any purpose, meaning this is an educational experience and as such, students must comply with the policies and procedures put forth in this handbook. Any attempt to alter or falsify an attendance record shall be considered to be unethical and unprofessional conduct and shall be grounds for dismissal from the program.

1) Attendance

- a) Each student will receive a clinical schedule. Students are allowed in the patient treatment area ***only*** on their assigned days.
- b) Each student is responsible for signing in and out daily using the Trajecsys system. **Failure to do so will result in lost time.**
- c) No student will be allowed to have clinical assignments on hospital holidays, weekends, evenings, or nights.
- d) Students are not allowed to earn more than 40 hours of clinical time in one week.
- e) Only full eight-hour days are given credit, unless previously authorized by the program director.

2) Absence & Time Off – Clinical Year:

- a) In case of absence due to illness, the student must notify the program director and clinical supervisor by email at least one hour prior to the start of the clinic's work day.
- b) Mount Sinai Radiation Oncology Departments are closed on the following days: New Year's Day, MLK, President's Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Thanksgiving, and Christmas. As such, students are excused from clinic.
- c) Each student will be entitled to 5 personal days to be used for reasons of religious observance, vacation, minor illness, family needs, etc. Students **must** notify the program director and department supervisor at least **48 hours prior**, unless due to illness.
- d) Students receive a winter vacation that generally begins on December 24th and extends through New Year's Day, January 1st.

- e) An excess of **three days** absence in any one semester, without prior documentation stating the reason for the absence(s), will be sufficient reason to have the student's participation in the program reviewed for possible probation.
- f) Students will not absent themselves from their clinical schedule for the purpose of studying for examinations.
- g) Students may be permitted 2 days of bereavement leave (with appropriate documentation). Students must notify the program director at least 24 hours prior to their absence.
- h) Time missed due to inclement weather may need to be made up. This will be at the discretion of the program director.
- i) Students should expect that they may be called for jury duty. Because jury duty is a civic responsibility, the Mount Sinai Center for Radiation Sciences Education at Stony Brook University will not ask that students be excused from jury duty. However, if the student's absence from the program will create a hardship or jeopardize the student's academic work, the student may wish to seek a deferral through the appropriate judicial district.

3) Punctuality

- a) Each student is required to enter the clinical area at the assigned time.
- b) Each student is required to report immediately to his/her assigned area.
- c) A student who enters the clinic late ***may be sent home*** at the discretion of the clinical supervisor.
- d) Students may not work through lunch hours in order to leave the clinic early, except in extraordinary circumstances. This must be approved by the student supervisor and program director.
- e) A student who fails to return on time from break or lunch hour may be sent home at the discretion of the clinical supervisor and not be credited with time for that day.
- f) A student must contact their clinical supervisor if they expect to be arriving late for ANY reason. They must clock-in accurately and it will be recorded as a lateness.
- g) A student with 5 lateness within a semester will be given a WRITTEN WARNING. A subsequent lateness will be grounds for the program director, to recommend to the Dean of SHP in writing, (within five working days) that the student be placed on probation.

4) Make-Up Time

The fulfillment of the minimum required 235 days of supervised clinical education time is the ***student's*** responsibility. Failure to complete the required number of days within the allotted time period may result in a **failure to graduate**. Therefore, the student is required to make up promptly any days missed.

- a) Any necessary absence from the clinic will be made up at the first available time with the approval of the program director.
- b) Any time owed, prior to the end of each semester, must be made up prior to credit being given for the start of the following semester.
- c) Any time owed must be made up prior to June 28th of the final semester of clinical education.

CLINICAL APPEARANCE, DRESS CODE & REQUIRED ACCESSORIES

Dress Code and Professional Appearance

- Medical dosimetry students must wear business attire during clinical internships.
- All students must wear closed-toe shoes.
- Clothes and shoes must be clean and in good repair.
- Hair must be pulled back in a neat fashion.
- Beards and mustaches must be neatly trimmed (religious custom is the only exception).
- Excessive jewelry and excessive use of cosmetics, colognes/perfumes are inappropriate in the clinic.
- Long fingernails pose a health and hygiene hazard and are considered inappropriate and not tolerated. Chipped nail polish is unacceptable.
- Careful attention must be paid to personal hygiene when attending clinic.
- Failure to dress properly may result in being sent home at the discretion of the clinical supervisor or program director. No clinic hours will be credited.

Required Accessories

- A name tag that includes the name of the institution must be worn. It must contain the word “student.”
- Radiation badges must be worn above the waist on same side as name tag.

Personnel Radiation Monitoring:

- Students are to follow Mount Sinai’s Personal Exposure Monitoring Policy (appendix 1). Radiation dosimetry badges are to be monitored by Radiation Safety staff and appropriate follow-up actions taken as may be indicated by the results.
- Dosimeters will be given to students at the start of each clinical rotation. Each student is responsible for exchanging the radiation dosimeter(s) on the designated day of each rotation. Radiation dosimeters are exchanged with the clinical preceptor.
- Monthly radiation exposures for students must not exceed the maximum permissible dosage to occupationally exposed persons as established by state and federal agencies for radiologic health.
- Radiation exposure reports are posted in private spaces in each Mount Sinai Radiation Oncology department and are made available to students immediately following receipt of data, at minimum once per quarter. Student date of birth and/or social security numbers are not included on radiation exposure reports.

Students are responsible for:

- Wearing the dosimeter while on duty in those areas where there is a potential for radiation exposure.
- Exchanging worn dosimeters for new ones on the first workday of each wear period (e.g., first day of month or calendar quarter, depending on assigned wear period), unless the new replacement dosimeters' arrival has been delayed, in

which case the exchange may be made as soon as possible after the arrival of the new dosimeters).

- Taking proper care of dosimeters, as described by Office of Radiation Safety instructions, to avoid damaging or contaminating the dosimeters.
- Not storing dosimeters near radiation sources when not being worn.
- Not wearing dosimeters when being exposed to radiation sources for personal medical purposes (The wearer should notify Radiation Safety if this inadvertently occurs or if administered a radiopharmaceutical).
- Notifying Radiation Safety immediately whenever dosimeters are lost, accidentally damaged, name change is required, place of work has changed, or any reason why accidental exposure may have occurred (i.e., dosimeter accidentally left near source when not worn).
- Returning all dosimeters and holders upon termination of duties with/near radiation sources.
- Notifying Radiation Safety/dosimeter distributor of pending student termination.
- Otherwise wearing assigned dosimeters in accordance with any other Office of Radiation Safety instructions.
- Failure to comply with guidelines and responsibilities above may result in forfeiture of dosimeters and/or disciplinary action.

Reports to Wearers:

- Dosimeter wearers will be notified of radiation doses as obtained as per the criteria specified in regulations contained in 10 CFR 19 or any other applicable state or federal regulation.
- Individuals may be notified if their cumulative readings in any calendar quarter exceed pre-established 'investigation levels', or if any unusual or apparently 'high' dosimeter reading(s) are identified by Radiation Safety personnel.
- Regular dose reports [excised of personal information other than dosimeter wearer id number] are provided to the dosimeter distribution group distributor for availability to wearers.
- Individuals may also obtain their dosimeter results by making proper request to the Office of Radiation Safety. Such requests generally are required to be made in writing to protect the individual's personal information from release to unauthorized personnel.

Regular dose reports are provided to the dosimeter distribution group distributor for availability to wearers and confidential:

- Individual radiation dose readings are considered as protected information and access to this information is limited to Radiation Safety personnel, supervisors, program directors, management personnel, members of the Radiation Safety Committee, regulatory inspectors, or others (with RSO approval) with a legitimate need-to-know.
- Release of individual dose information in any circumstances is limited to the minimum necessary.
- Any other personal information obtained by the Office of Radiation Safety in the administration of the dosimeter program is treated as confidential.

“High” Radiation Dosimeter Readings

- High or unusual radiation dosimeter readings are investigated by Mount Sinai’s Radiation Safety Officer. Readings above designated “Investigation Levels” are evaluated with regard to workload and type of duties performed by the dosimeter wearer; adherence to proper work practices; proper care and use of the dosimeter; and possible exposure of the dosimeter to “non-occupational” radiation sources. In cases where it appears that the high readings may be due to inadequate safe work practices or improper use or storage of the dosimeter(s), the wearer is counseled by Radiation Safety Officer and/or the wearer’s supervisor(s).

PROFESSIONAL BEHAVIOR

1) Performance Skills and Attitudes – Assessment Procedures

In addition to mastery of cognitive skills and knowledge, students will be evaluated on their performance skills and attitudes. These include the following:

- a) Adherence to Stony Brook University’s Code of Conduct;
- b) Adherence to the SHP policies and procedure manual;
- c) Adherence to the Mount Sinai Health System policies and procedures;
- d) Ability to work with and relate to peers, faculty, and other members of the health care team;
- e) Maintain a positive attitude in all aspects of work;
- f) Maintain good attendance and arrive on time to work; and
- g) Conduct one’s self in a professional demeanor at all times, including professional dress.

Successful completion of each rotation requires that the student continuously maintain high standards. This means that regardless of one’s level of achievement in cognitive skills and knowledge, if one’s professional behavior is not appropriate, he/she may not meet minimum requirements for successful completion of the rotation.

2) Unsatisfactory Performance Skills or Attitudes

Unsatisfactory behavior such as disruption of class activities, expression of derogatory, disrespectful remarks to the instructor, inability to work with peers, or excessive unexcused absences will result in further action.

A student who has exhibited unsatisfactory behavior that may affect his/her final evaluation and academic standing shall receive a written warning that stated behavior may jeopardize successful completion and lead to disciplinary action.



The details of these policies and procedures can be found in the Academic Standing Policy of the School of Health Profession's; see the SHP Handbook for Certificate Programs at:

<https://healthtechnology.stonybrookmedicine.edu/students/incoming/orientation>

All students are also expected to adhere to the Stony Brook University Student Conduct Code (available on the SHP webpage).

GENERAL RULES OF CONDUCT AND SAFETY

Students are expected to conduct themselves in a professional manner at all times, reflecting the integrity and values of the Mount Sinai Health System. Failure to comply with the rules of conduct and safety will result in disciplinary action.

Conduct

- 1) Students are expected to observe guidelines set forth in the directives (article 35) issued by the New York State Department of Health, Radiologic Technology, Bureau of Environmental Radiation Protection.
- 2) Students must abide by the policy and standard rules and regulations of the SHP, Medical Dosimetry Program and the Mount Sinai Health System.
- 3) Students will address the staff, patients, and fellow students by their appropriate title and/or last name.
- 4) Smoking, eating, and drinking are permitted in designated areas only.
- 5) Personal relationships with staff and patients are prohibited.
- 6) Personal conversation and discussions with classmates or staff while interacting with patients are in poor taste and should be limited to off-duty hours.
- 7) Grievances and personal dislikes should be aired in private with the appropriate person(s).
- 8) Cell phone use is not permitted during clinic hours and should be stored in student lockers. Cell phones are not to be on the person of any student in clinic areas.

Safety

- 1) Students are required to acquaint themselves with the routine radiation and electrical safety policies and procedures and abide by all departmental radiation safety rules.
- 2) Accidents involving patients will be reported immediately to the program director and clinical supervisor who will file a written incident report.
- 3) Accidents involving students will be reported immediately to the program director and clinical supervisor who will file a written incident report. The student will then report to the Mount Sinai Emergency Department to be evaluated and cleared.
- 4) Radiation dosimetry (film) badges will be worn at all times while in the clinical facility and left within the facility upon leaving for the day. Film badges are not to be taken home.
- 5) Gross and willful negligence in the use of radiation and/or in the handling of radioactive substances which endangers the health of the student(s), staff, or patients,

will result in an immediate removal from the clinical rotation and a recommendation for immediate dismissal from the program.

Clinical Education: Policies, Procedures & Student Responsibilities

The application of theory learned in the classroom is applied to the clinical environment throughout the student's clinical education.

The following procedures are to be utilized when a student attempts to satisfy all Performance Objectives:

The clinical instructor(s) maintains all ongoing processes where the student must:

- Observe the Instructor perform the specific procedure.
- The student will assist the Instructor perform the specific procedure.
- Have the Instructor observe the student enact the same procedure.
- Have the Instructor critique and correct any possible errors.
- Prior to the student's attempt to satisfy a specific performance objective, the student must successfully perform the procedure previously.
- Having satisfied the above criteria, the student can request (at their own discretion), that the Instructor evaluates their performance for Clinical Competency.
- The student must perform each step of the procedure correctly and consistently to be deemed successful in satisfying any attempted objective.

Clinical competency evaluation forms are maintained to record student grades and progress and to communicate their performance. All records are maintained electronically on Trajecsyst and verified by the Program Director. A student not successful in completing their clinical requirements will be **ineligible** for graduation. The program uses the Clinical Performance Evaluation form, Clinical Competency Evaluation, and Procedure Log to document and evaluate student progress during the clinical practicum.

All educational activities of the Program are maintained with various channels of communications. Methods of communication include, but are not limited to, scheduled clinical site visits by the Program Director, intermittent telephone calls, written correspondence, advisory committee meetings, and formal and informal conversations with the Clinical Supervisors and formal student/program director meetings.

Each student is provided with a Clinical Education Handbook during the required **Orientation to Clinical Education** session on the first day of the clinical practicum. Due process policies for students participating in the clinical education component are in place, as is the behavioral and technical objectives and standards, attendance academic standing, probation and dismissal and pregnancy policies.

Clinical Education Plan

3 Month clinical rotation schedules will be provided to each student and the clinical preceptors during orientation.

At the start of each clinical rotation, the clinical preceptor will introduce the department the first day of a student's clinical assignment. Students will be oriented to the hospital and the department. Students will present a "Student Intake Form" (appendix 2) on the first day of each monthly clinical rotation. This document will review student experience, goals, objectives, and expectations.

The "Plan" for the clinical education component of this program is to satisfactorily complete all clinical competencies and required assignments. All clinical courses will have competency objectives incorporated into an evaluation instrument.

Students are evaluated by the clinical staff at the end of each 3 month rotation. These evaluations will be utilized to establish a final grade (Pass/Fail) for the clinical education session and are kept in the student's file. The first two months of the clinical year, students will be evaluated using the "Student Evaluation."

Specialty rotations in brachytherapy, SRS planning, proton therapy, and with a physician will be assigned throughout the clinical year.

Instructional methods used to teach all clinical coursework include: Demonstrations, Personal Experiences, Case Study, Lecture and Simulation Techniques.

Direct Supervision Policy

All clinical activities involving a patient shall require appropriate supervision by a registered radiation therapist or any appropriate clinical staff member, e.g. RN, CMD, MD, etc. As follows:

- Students must never begin the treatment planning process (contouring, registration, pulling images, planning) without notifying the proper clinical preceptor first.

Professional Confidentiality

One of the major restrictions that a health care profession imposes is the need to maintain strict confidentiality of medical and personal information about a patient. Medical records are comprised of many parts including the following: histories, diagnostic images, and radiographic film records. They must be handled confidentially and cannot be revealed to the patient, family, or others outside the department without the direct consent of the patient's physician. Medical information should only be shared with individuals who are involved in the patient's care and must know this information for treatment purposes.

Information should never be discussed with the student's family or friends even in the most general terms, as **this would be violating the patient's rights.**

An invasion of privacy can be as obvious as releasing medical information to the press, or as subtle as discussing a patient's condition with a co-worker in a public place. Students must maintain confidentiality and ensure the privacy of each patient.

Students must maintain strict confidentiality of all health information of patients at Mount Sinai sites during and after the course of their clinical rotations. Students may neither use nor disclose health information of patients to which they have access, other than as expressly authorized by the clinical affiliate. Students may not record any patient-identifiable information on their personal documents (e.g. Clinical logs). Students must be familiar with and adhere to Mount Sinai's HIPAA policy.

Policy on Disabilities

Student Accessibility Support Center (SASC):

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Student Accessibility Support Center, ECC (Educational Communications Center) Building, Room 128, (631) 632-6748. They will determine with you what accommodations, If any, are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Student Accessibility Support Center. For procedures and information go to the following website: <http://www.stonybrook.edu/ehs/fire/disabilities>

Policy on Evaluations with Program Director

Each student will meet with the program director within 1 week of the end of each clinical rotation. The students will be prepared to discuss the following:

- Intake form (inclusive of goals, expectations)
- Attendance sheet (daily clinic, quality assurance and chart rounds)
- Evaluation (from preceptor)
- Record of involved procedures
- Record of competency form

Academic Integrity

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Profession's, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at

http://www.stonybrook.edu/commcms/academic_integrity/index.html

Academic Standing, Probation, and Termination Policy

Students must achieve a minimum **75%** (equals “C”/pass) in all of the following non-credit didactic courses to qualify for graduation: Clinical Radiation Oncology, Simulation, Professionalism, Treatment Planning, Radiation Protection and Physics.

Procedure follows the SHP policies and procedures on probation and termination contained in this book.

The program director will recommend to the dean in writing, (within five working days) that the student be placed on probation. Probation/termination is indicated by the following:

- A student enrolled in the program will be recommended for probation if a grade of less than 75% (equals minimum passing grade of “C”) in any required didactic course within the program’s curriculum.
- A student who has been placed on probation (e.g., failure of a pre-requisite) may not ordinarily be permitted to participate in full-time clinical practice, except under extraordinary circumstances, and at the discretion of the program faculty and the dean.
- A student that does not complete 2 competencies successfully per month, or who fails a competency attempt 2 times will be given a written warning. Any second written warning will result in probation.
- A student that fails 6 competencies throughout the course of the clinical year will be placed on probation.
- A student that receives under a 3.0 evaluation or who logs patient learning logs less than 2 times per week will be given a written warning. Any second written warning will result in probation.
- A student given a written warning or placed on probation will undergo remediation with the program director and relative clinical preceptors.
- Unsatisfactory and/or unethical clinical performance alone will result in a recommendation to the dean for probationary status and/or possible termination from the program.
- Any student will be recommended for termination from the Medical Dosimetry Program if, while on probation, their academic grade(s) falls below 75% and/or a grade of unsatisfactory in any clinical education evaluation(s).
- Students who fail (less than 75% or “C”) two (2) required courses in one (1) semester will be recommended by memo to the dean, for termination from the program.
- A student who receives both a didactic course grade of less than 75% and one or more unsatisfactory clinical evaluations will be recommended, by memo, to the dean for termination from the program.
- A student placed on probation twice will be recommended for termination from the Medical Dosimetry Program.

If the requirements of ethical behavior, health, good academic and clinical standings are not met, the student may be placed on probation or dismissal from the program.

Student Appeal Process for Academic Standing Issues

See the Stony Brook University SHP Student Handbook for the student appeal policy and procedure. This policy can be found on page 9, section G:

<https://healthtechnology.stonybrookmedicine.edu/sites/default/files/2021%20SHTM%20Student%20Handbook%20for%20Certificate%20Programs.pdf>

Student Grievance Policy and Procedure

If a student believes there has been a violation, misinterpretation, or inequitable application of any existing policy, procedure, or regulation the student has the following avenues to pursue grievances.

Informal Process: The student is encouraged to meet with the individual whose behavior warranted the grievance. If this action is not feasible, the student should contact the Program Director to discuss the issue and develop a resolution plan. The informal meeting must take place within two weeks of the occurrence that caused the grievance. Another avenue of informal grievance is to contact the university's Ombudsman Office at <https://www.stonybrook.edu/ombuds/>

Formal Process

- Within two weeks, the student must submit to the program director in writing a detailed description of the grievance. Upon review of the written grievance, the Program Director will discuss the issue with the student and provide the student with a written resolution within 5 business days. Note: If the grievance is with the Program Director, the student should submit the written description of the grievance directly to the Chair of the department.
- If the student believes their concern has not been adequately addressed/resolved by the Program Director, within 5 business days they must email the Chair of the department to request an appointment to discuss the issue. The Chair will discuss the issue with the student and provide the student with a written resolution within 5 business days (with a copy to the Program Director as appropriate).
- If the student believes their concern has not been adequately addressed/resolved by the department Chair, within 5 business days they must contact Joanmarie Schreiber, Assistant Dean for Academic and Student Affairs. The assistant dean will discuss the issue with the student and provide the student with a written resolution within 5 business days (with a copy to the program director or Chair as appropriate).
- If the student believes their concern has not been adequately addressed/resolved by the Assistant Dean for Academic and Student Affairs, they must contact Dr. Stacy Jaffe Gropack, Dean of SHP (with a copy to the

program director or Chair as appropriate). The Dean will discuss the issue with the student and provide the student with a written resolution within 5 business days.

The Program Director will monitor formal grievances and informal complaints and concerns to determine whether there is a pattern of complaints that could negatively affect the quality of the educational program. The Program Director will maintain a secure file, located in his office, of all formal grievances and their resolution. The Program Director review grievances and ensure that resolutions are implemented. They will also monitor the nature of grievances and resolutions to ensure that there are no trends that could negatively affect the quality of the educational program.

If the grievance involves racial/ethnic or gender discrimination the student may also contact Office of Institutional Diversity and Equity (OIDE) or the Title IX Coordinator.

- OIDE: <https://www.stonybrook.edu/commcms/oide/>
- Title IX Coordinator: <https://www.stonybrook.edu/commcms/oide-titleix/>

Critical Incident Management

Stony Brook University and the Mount Sinai Health System expect students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Liability Insurance

Students are required to provide proof of professional liability insurance coverage. A policy can be purchased from CM&F Group. Students are required to carry a minimum of \$1,000,000 policy coverage. The annual policy coverage should begin on the first day of clinical rotations. Approximate cost is \$30.00/year. The policy cover page, including dates of coverage and coverage amount needs to be submitted to the program director. Students are not permitted access to the clinical areas without documented proof of liability coverage.

<https://www.cmfgroup.com/professional-liability-insurance/radiation-imaging-diagnostic-professional-insurance/medical-dosimetrist-insurance/>

PREGNANCY POLICY

The **pregnancy policy** of the Stony Brook University Medical Dosimetry Program is designed to reduce the potential for radiation exposure to the fetus and to assure that the student participates in an academic and clinical curriculum that will enable the student to meet the objectives of the program.

In the event that a student becomes pregnant while enrolled in the program, the individual has the option of whether or not to inform the Program Director of the pregnancy. If the student chooses to inform the Program Director, it must be in writing. In the absence of this voluntary, written disclosure, a student cannot be considered pregnant. Upon receipt of a written, voluntary disclosure of pregnancy, the student shall be given a choice of three (3) options, as follows:

1. To continue full participation in the program modified by program officials to exclude or postpone assignments and/or employ additional safety precautions for those procedures that carry greater potential for occupational radiation exposure.
2. To continue full participation in the program without modification or interruption.
3. To withdraw completely from clinical training.

If a student chooses to discontinue clinical education, the student will be permitted to complete the didactic portion of the curriculum. The student will be required to be in attendance only during scheduled classroom hours as is possible. The remaining clinical training hours and all clinical competencies shall be completed at a time mutually agreed upon following the course of pregnancy. The student shall be eligible for certification and licensure only upon satisfaction of all program graduation criteria.

If a student chooses to continue with Clinical Education:

- The program officials shall determine the exact form and content of the plan for clinical training should modification be selected by the student.
- A fetal exposure monitor will be issued and possibly additional shielding materials made available if necessary.
- The plan must not compromise the program objectives or the education of the other class members.
- Efforts shall be made to allow the student to continue in the program as long as medically advisable and educationally valid.
- The student shall meet with the Radiation Safety Officer to be advised of the most current information available regarding possible medical risks of radiation exposure to the fetus and the radiation exposure monitoring guidelines to be followed.
- The student must adhere to the pregnancy policy of the clinical education center to which assigned.

DECLARATION OF PREGNANCY

I, _____, do hereby make this voluntary declaration of pregnancy. My estimated date of conception was _____, 20____.

It has been explained to me that I am making this voluntary declaration of pregnancy. I understand this means the Medical dosimetry Program/Licensee must take measures to ensure that the total dose to the embryo/fetus during the entire pregnancy from occupational exposure does not exceed 0.5 rem (5 msv). If, as of this date, the total dose to the embryo/fetus is 0.45 rem (4.5 msv) or greater, the total dose to the embryo/fetus during the remainder of the pregnancy shall not exceed 0.05 rem (0.5 msv).

It has been explained to me that these measures may include the reassignment of clinical rotations and corresponding learning objectives to those that will result in lower occupational exposure or the placement of certain restrictions on the duties that I perform.

It has also been explained to me that I may revoke the declaration of pregnancy at any time and that the revoking of the declaration must be in writing.

(Student) Medical Dosimetrist

Date

Radiation Safety Officer

Date

Sample Document
(Not to be used as an official form)

Subpart B—Radiation Protection Programs

Source: 56 FR 23396, May 21, 1991, unless otherwise noted.

§20.1101 Radiation Protection Programs

- a) Each licensee shall develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of this part. (See §20.2102 for recordkeeping requirements relating to these programs.)
- b) The licensee shall use, to the extent practicable, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).
- c) The licensee shall periodically (at least manually) review the radiation protection program content and implementation.
- d) To implement the ALARA requirements of §20.1101 (b), and notwithstanding the requirements in §20.1301 of this part, a constraint on air emissions of radioactive material to the environment, excluding Radon-222 and its daughters, shall be established by licensees other than those subject to §50.34a, such that the individual member of the public likely to receive the highest dose will not be expected to receive a total effective dose equivalent in excess of 10 mrem (0.1 msv) per year from these emissions. If a licensee subject to this requirement exceeds this dose constraint, the licensee shall report the exceedance as provided in §20.2203 and promptly take appropriate corrective action to assure against reoccurrence.

[56 FR 23396, May 21, 1991, as amended at 61 FR 65127, Dec. 10, 1996]

§20.1208 Dose to an embryo/fetus

- a) The licensee shall ensure that the dose to an embryo/fetus during the entire pregnancy, due to occupational exposure of a declared pregnant woman, does not exceed 0.5 rem (5 msv). (For recordkeeping requirements, see §20.2106.)
- b) The licensee shall make efforts to avoid substantial variation above a uniform monthly exposure rate to a declared pregnant woman so as to satisfy the limit in paragraph (a) of this section.
- c) The dose to an embryo/fetus shall be taken as the sum of—
 - 1) The deep-dose equivalent to the declared pregnant woman; and
 - 2) The dose to the embryo/fetus from radionuclides in the embryo/fetus and radionuclides in the declared pregnant woman.
- d) If the dose to the embryo/fetus is found to have exceeded 0.5 rem (5 msv), or is within 0.05 rem (0.5 msv) of this dose, by the time the woman declares the pregnancy to the licensee, the licensee shall be deemed to be in compliance with paragraph (a) of this section if the additional dose to the embryo/fetus does not exceed 0.05 rem (0.5 msv) during the remainder of the pregnancy

CRITERIA FOR PROGRAM COMPLETION

In order to successfully complete the clinical program in Medical Dosimetry and to be eligible to receive a Certificate of Completion, each student must satisfy the following criteria:

- 1. Complete 235 days of clinical education in accordance with the Time & Attendance Policy**
- 2. Complete Clinical Competency requirements and receive satisfactory Clinical performance evaluations for each assigned clinical rotation.**
- 3. Complete each Study Unit with the minimum passing grade of 75%**

Clinical Year Grading System

Student's final clinical grade will be calculated based on the following courses, evaluations, and deliverables:

- Didactic coursework (exams, assignments)
- Log completion
- Grand round deliverables
- Clinical evaluations
- Mini – rotation deliverables
- Journal Club Presentations

Students will receive numerical grades in class; however, transcript grades will be documented as Pass/Fail.

Student Deliverables

In addition to completing treatment competencies, effective August 1st, students are to complete the following activities and submit deliverables as required:

- 1 quality assurance attendance per month to be entered in Trajecsyst (Appendix 7)
- Grand rounds once per quarter
 - Deliverable: Essay on key take-aways (Appendix 8)
- Journal Club presentation once per quarter
 - Deliverable: Presentation on key take-aways (Appendix 9)
- Log submission, three submissions/week, to be entered in Trajecsyst

Grade	Numerical Equivalent
A	95-100
A-	90-94
B+	88-89
B	85-87
B-	80-84
C+	78-79
C	75-77

**Passing grade for the program is 75*



C- 70-74
F <70

Guidelines for Clinical Supervisors/Instructors

When Filling Out Evaluation Forms

Evaluation forms are designed to evaluate either the cognitive, psychomotor, and/or effective skills of students. When evaluation forms are being filled out, the ratings and comments should address the competency and skills that can be expected of a medical dosimetry student, not an experienced medical dosimetrist.

Please refer to the following where applicable:

Cognitive Skills: Deal with the application of knowledge and the development of Intellectual abilities.

Psychomotor Skills: Deal with behavioral tasks involving physical action.

Affective Skills: Deal with interest, attitudes, and value.

CLINICAL BEHAVIOR EVALUATION

The student evaluation form (appendix 3 and appendix 4) must be completed via Trajecsys by clinical preceptors, including appropriate (online) signatures, each month. Clinical preceptors work with the medical dosimetry team assigned to the student for the month when completing monthly evaluation forms in Trajecsys.

Instructors/Evaluators are encouraged to elaborate upon the student's strengths and/or areas that need improvement based upon the content of this evaluation and overall student/instructor/patient interactions in the comments section. Evaluators are requested to address any "no" answer(s) in the evaluation.

CLINICAL COMPETENCY POLICY

Starting the third month of the clinical year (August) a minimum of 2 treatment planning competencies are due by the last day of each month. All competencies must be completed prior by the end of the evaluation period in order to ensure a timely grade.

A list of all required competencies can be found in appendix 10.



Instructions for Completing Competency Forms

Evaluations will not be considered complete unless all the information requested on the form in the student section is filled out entirely.

The student must present the treatment planning directive (and Rx to be delivered) to the clinical preceptor prior to accessing the patient dataset. The student must explain the competency details to the clinical preceptor at the beginning of each competency. During this presentation, the student must explain the site, dose, diagnosis, histology, imaging and any other relevant information.

The supervising instructor must check off the appropriate areas on the Competency Form as each task is correctly performed (appendix 11 and appendix 12).

If a student commits an error while attempting to plan, the evaluation process is terminated at that point. The error is then indicated on the worksheet and entered into Trajecsyst. The sheet that reflects the error must be kept on file and the student must repeat the process from the beginning.

All completed Competency Forms will be kept in the student's folder and submitted to the program director, along with the other evaluation forms, by the last clinical day of the clinical month rotation.

Please note: students will be evaluated for specialty rotations (CT Sim, physician and brachytherapy), through submitted essay, reflective journal and worksheet.

SPECIALTY ROTATIONS

Specialty rotations include internships to better understand departmental function, and patient experience in Radiation Oncology. Students will spend 1 week under a physician's supervision and service to understand patient consults, on treatment visits and follow-ups, nursing education, as well as the communication between the department and patient. Students will spend multiple days during clinical skills orientation rotating with RTTs, learning how radiation is delivered through treatment machines. While rotating to the Blavatnik Family – Chelsea Medical Center at Mount Sinai, students will shadow brachytherapy procedures alongside radiation oncologists, Vishal Gupta, MD. In March, students will complete a 2-week observational rotation at the New York Proton Center to shadow proton therapy procedures. Students will observe and participate in SRS Planning techniques throughout the clinical year across clinical settings as they arise.

Physician Specialty - Rotation

Goal: To educate the student to the role of the radiation oncologist in delivering quality care to cancer patients undergoing radiation therapy.

Student Objectives: Course objectives are consistent with the professional curriculum of the ASRT and approved by the Joint review Committee on Education in Radiologic Technology (JRCERT) standards for accreditation. www.JRCERT.org

- Understand the fundamentals of the required physician for informed consent, side effects of radiation therapy and the expected outcomes. Identify anticipated side effects (both acute and chronic) based upon both the tumor location and anatomy within the treatment field.
- Understand the *need* and *procedure* for obtaining a patient's consent. All new patients must sign a written consent form filled out by their attending radiation oncologist prior to receiving treatment planning and radiation therapy treatments.
- Discuss aspects of clinical evaluation, therapeutic decision-making and informed consent.
- Understand the process and explain the need of new patient orientation which includes the following:
 - Introduction of the radiation oncology health care team;
 - Verification of patient's identity;
 - Tour of radiation oncology department (e.g., reception area, parking validation, refreshments);
 - Patient waiting area (e.g., changing area, lockers, gowns);
 - Nursing station;
 - Simulator; and
 - Treatment area to include patient's treatment unit.
- Understand new patient assessment to include the following:
 - View "Introduction to Radiation Therapy" video;
 - Nursing assessment and knowledge base evaluation;
 - Reinforcement of appropriate patient education information both verbal and written;
 - Preparation of patient information packet with site-specific handouts; and
 - Referral to social worker if needed.
- Understand evaluation of patient's support systems at home including:
 - Transportation;
 - Nutrition;
 - Pain management; and
 - Self-care.
- Understand nursing documentation chart.
- Understand on-treatment patients including:
 - Monitoring of weight and blood pressure each visit;
 - Appropriate graphic sheet charting;
 - Updating medications on summary list;
 - Monitoring weekly blood work results;
 - Reviewing anticipated changes related to specific treatment site; and
 - Documenting telephone conversations (e.g., instruction on the proper utilization of telephone contact sheets).

- Understand chart review including:
 - Ensuring physician's orders are properly endorsed;
 - Appropriate chart order (e.g., pathology, history, physical, are in order and all documents are filed under the proper section); and
 - Nursing progress notes are properly endorsed to include the following:
 - Nursing assessment is complete;
 - Ambulatory care summary list current;
 - Physician list current and accurate; and
 - Pathology reports and current laboratory results are filed in chart.
- Understand continuing assessment, education, and management of on-treatment patients to ensure optimum quality of life while going undergoing radiation therapy treatments.
- Understand follow-up procedures including:
 - Follow-up questionnaire must be filled out properly;
 - Obtain outside data (if not presently available from chart)
 - Document results of in-house diagnostic work-ups (if not present in chart)
 - Document current weight and blood pressure;
 - Update medications and current attending physicians involved in the patient's total care;
 - Coordinate diagnostic work-ups for date of follow-up visit and for future visits as well; and
 - Follow-up of results of all ordered diagnostic work-ups and evaluations ordered prior to or after patient's follow-up visit.

Reflective Journal: Journal is to be 4 pages in length (double spaced). Student should reflect on their experience and understanding of patient consults, on treatments visits, follow ups and nursing education. Students are to highlight the communication observed between physicians, nurses, radiation therapists, medical dosimetrists and support staff. Journal is to be completed one week following a student's physician rotation.

Brachytherapy Specialty - Rotation

Goal: To educate the student on the role of brachytherapy in the treatment of cancer.

Student Objectives: Course objectives are consistent with the professional curriculum of the ASRT and approved by the Joint review Committee on Education in Radiologic Technology (JRCERT) standards for accreditation. www.JRCERT.org

- Discuss quality control procedures and recommend tolerances for the safe handling of brachytherapy sources and remote afterloading equipment
- Identify appropriate clinical applications for brachytherapy
- Compare and contrast brachytherapy delivery systems
 - High-dose rate (HDR)
 - Low-dose rate (LDR)
- Understand isotopes, methods of radiation production, half-life, energy and radiation protection
- Understand proper brachytherapy communication, and patient observation
- Assess the patient before, during and after brachytherapy procedures
- Understand emergency procedures relative to brachytherapy treatments and machinery
- Describe the elements of a radiation protection survey for patients undergoing Brachytherapy in the operating room and inpatient settings
- Understand storage, remote after loaders, surveys, licensing, documentation, management of accidents, handling and quality assurance for brachytherapy procedures.

Deliverable: Key takeaways as noted above to be entered in Trajecsyst via logs.

OBSERVATIONAL ROTATIONS

An observation site is used for student observation of the operation of equipment and/or procedures. These sites provide opportunities for observation of clinical procedures that are not available at the RTT Program's main clinical settings. Students may not assist in, or perform, any aspects of patient care during observational assignments.

Proton Observational Rotation

New York Proton Center (NYPC) Location: 225 East 126th Street, New York, NY 10035
NYPC Clinical Preceptor: Andy Shim | andy.shim@nyproton.com | (646) 968-9034

Students will spend 3 weeks observing radiation therapists at the New York Proton Center (NYPC), a consortium between the Mount Sinai Health System, Memorial Sloan Kettering Cancer Center and Montefiore Medical Center, managed by prohealth. Students will report to the NYPC chief of Dosimetry and will be under direct supervision at all times. Students will receive a dosimeter badge at the start of their observational rotation, badge results will be shared with the Dosimetry Program director immediately once received.

Proton Observation Rotation Objectives

At the conclusion of the Proton Observational Rotation, students will be able to:

- Categorize radiation therapy equipment:
 - Proton cyclotron
 - Components
 - Methods of radiation production
 - Accessories
 - Compensation
- Explain proton:
 - Properties
 - Energy deposition
 - Bragg peak advantage
 - Clinical applications and treatment planning
 - Motion management and mitigation strategies
 - Patient positioning
 - Imaging workflow
 - Treatment planning
 - Treatment delivery

Deliverable: Key takeaways as noted above to be entered in Trajecsys via logs.

COVID-19 POLICY

The impact of COVID-19 continues to vary widely among radiation therapy programs. The Dosimetry Program will adhere to guidelines given by the New York State, Stony Brook University and the Mount Sinai Health System.

The Dosimetry Program will continue to fulfill the didactic and clinical competency requirements outlined by the AAMD and in compliance with the Joint Review Committee on Education in Radiologic Technology (JRCERT). The Dosimetry program's contingency plan is to provide virtual clinical education inclusive of, but not limited to, student projects, research and virtual mini courses. The Dosimetry Program is prepared with robust online educational resources and support from Stony Brook University, the Mount Sinai Health System and the American Association of Medical Dosimetrist (AAMD). The following guidelines will be followed:

- Students in clinical settings are not to participate in clinical care of patients suspected or known to have COVID-19.
- Students must abide by the Mount Sinai Health System (MSHS) policies and personal protective equipment (PPE) guidelines. MSHS COVID-19 policies can be found at: <https://www.mountsinai.org/about/covid19/staff-resources>
- Students should remain aware of national guidelines from the CDC concerning precautions for viral illness (COVID-19) risk mitigation and exposure response.
- Students must stay home if they are ill with fever, with or without respiratory symptoms.
- All students are to check for any signs of illness before reporting to clinical rotations and notify their program director and clinical supervisor if they become ill.
- A student who is ill with fever and/or respiratory symptoms will require a healthcare provider's note before returning to clinic.
- If a student is exposed to a confirmed or possible case of COVID-19, the student is required to inform their program director and clinical supervisor immediately. The student will complete testing and the RTT Program will provide guidance on when the student is approved to return to clinic.
- Accommodations due to COVID-19 Related Exposure/Illness: Academic and clinical accommodations may be made for testing, missed assignments, missed work and lost time due to quarantine and/or testing.
- Additional information can be found at:
<https://www.cdc.gov/coronavirus/2019-ncov/index.html>
<https://www.mountsinai.org/about/covid19/staff-resources>
<https://www.stonybrook.edu/commcms/studentaffairs/caps/resources/covid-19-resources.php>

Appendices

Appendix 1: Personal Exposure Monitoring Policy

THE MOUNT SINAI HOSPITAL, NEW YORK						SUBJECT NO. 7	
POLICY AND PROCEDURE						RS7 - Policy # 7	
DEPARTMENT: Radiation Safety							
SUBJECT: Personal Exposure Monitoring							
Original date of issue <u>12/15/2014</u>							
Reviewed:	12/2014						
Revised:	12/2014						

Personal Exposure Monitoring Program

A. General Purpose

Any individual who, during the performance of normal occupational duties, is likely to receive a dose in excess of 10% of the annual limit (5,000 mrem/year) must be monitored for radiation exposure. The Radiation Safety Office in conjunction with the Radiation Safety Committee (RSC) will decide whether or not a group of workers requires monitoring. It is the responsibility of each monitored worker to comply with the policies and procedures regarding the monthly/quarterly exchange of the radiation monitoring dosimeters. Individuals, who mishandle their dosimeters, including chronic failure in mandatory timely exchange, will be reported to their department head and/or hospital administration as violating rules and regulations.

Radiation exposure records are reviewed as soon as they are received by the Radiation Safety Office (typically every 2 weeks). Hard copy of staff exposure records are maintained in the Radiation Safety Office and are always available for review during normal working hours. Digital exposure records are available upon email request.

B. Dosimeter Types

Whole body dosimeters (P1, Black color) are to be worn on the front trunk of the body underneath any lead apron. P1 dosimeters are exchanged monthly for clinical workers and quarterly for research workers.

Collar dosimeters (P13, Red color) are to be worn on the collar outside any lead apron or thyroid shielding. P13 dosimeters are worn by all fluoroscopy users and are exchanged monthly. Lead apron and thyroid collar shields must be used during the procedures. Physicians performing Interventional Procedures will wear a collar dosimeter only. The Effective Dose Equivalent for these individuals will be determined by EDE2 calculations based on NCRP 122 recommendation.

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Ring or finger dosimeters may be worn by physicians performing fluoroscopy or cardiac catheterization procedures and by individuals who handle radioactive material or sources. Ring monitors shall be worn on the hand expected to get the largest exposure.

Fetal dosimeters (P17 with picture of fetus) are to be worn on the abdomen (always under lead apron when used) by declared pregnant workers.

C. Thyroid Monitoring

Thyroid counts are performed on the following groups of employees:

1. Thyroid burden of Nuclear medicine personnel who helped prepare or administer a dosage of iodine-131 is measured within 3 days after administering the dosage. NYCDOH Article §175.03(k) requires maintaining a record of each thyroid burden measurement, date of measurement, the name of the individual whose thyroid burden was measured, and the initials of the individual who made the measurements.
2. Thyroid burden of Radiation Safety personnel who monitor therapeutic I¹³¹ patients are measured within three days after the treatment.
3. Thyroid burden of laboratory personnel who perform radioiodinations with volatile I¹²⁵ or I¹³¹ are measured within three days after each procedure.

D. ALARA (As Low As Reasonably Achievable) Program

Mount Sinai Medical Center is committed to the implementation of a program to maintain radiation exposure to staff, visitors, and patients As Low As Reasonably Achievable. The program is implemented through the constant review of personnel monitoring records by the Radiation Safety Office. Results of these audits are presented to the Radiation Safety Committee and recommendations are made. The below table summarizes the ALARA level limits:

Quarterly ALARA Levels

Type	Level I	Level II
Whole Body	125 mrem	375 mrem
Lens of Eye	325 mrem	1,125 mrem
Extremity	1,250 mrem	3,750 mrem

Note: These limits have been adopted from NYCDOH regulatory guide 10.8

ALARA Level I: Each incident will trigger a notification process to the individual and/or their supervisor, as well as report to the quarterly Radiation Safety Committee meeting.

ALARA Level II: The Radiation Safety Office will investigate each such incident. The results of each investigation will be presented to the quarterly Radiation Safety Committee meeting.

E. Annual Limits on Exposure

Annual limits on occupational radiation exposure are in addition to any other radiation exposure one receives for medical diagnoses or treatment or from background sources. They are designed to limit risks from occupational exposure to be comparable to risks in other safe industries. The table below lists annual occupational exposure limits. The limits are:

Annual Exposure Limits

Type of Exposure	Annual Limit
Total Body Deep Dose	5,000 mrem
Any Organ	50,000 mrem
Lens of Eye	15,000 mrem
Skin or Extremity	50,000 mrem
Natural Background (NCRP 160)	620 mrem

Annual exposure histories (Form 5s) are provided to all monitored staff as required by regulation as soon as they become available each year.

F. Declaration of Pregnancy for Radiation Workers

In addition to the limits listed above, there are explicit limits applied to the embryo/fetus of a pregnant radiation worker. In order for the fetus to be monitored, the pregnant worker must declare the pregnancy in writing to the Radiation Safety Office. The declaration of pregnancy is voluntary and confidential. The table below lists the specific limits to the embryo/fetus:

Period of Exposure	Amount
Entire Gestation (9 months)	500 mrem
Each Month during Gestation	50 mrem

As soon as the Radiation Safety Office is notified of a declared pregnancy, the individual will undergo a confidential consultation with the Radiation Safety Officer. The employee's occupational exposure history will be reviewed and if the limits indicated above are likely to be exceeded, recommendations will be made to ensure that these limits are adhered to during the course of the pregnancy. A fetal monitoring dosimeter will be issued which must be worn beneath any lead apron on the abdomen to measure the exposure.

G. General Procedures for Handling Dosimeters

All departments with individuals who are issued radiation dosimeters must adhere to the following procedures:

1. Dosimeters must be exchanged monthly/quarterly for processing by the contract service company. All badges are to be returned to the service company within one week of return to the Radiation Safety Office.
2. Control dosimeters are kept in the Radiation Safety Office and are returned with personnel monitors for accurate processing of badges.
3. Personnel dosimeters assigned to individuals shall not be worn by anyone else.
4. Personnel dosimeters must not be taken home and must be kept in a background level area when not being worn.
5. New employees who are assigned dosimeters and who were monitored at previous employment must submit information about previous employer so that their occupational exposure histories can be obtained.
6. Each department must appoint a badge coordinator and alternate to coordinate the requirements of this section. These individuals, who will meet with Radiation Safety Office personnel to discuss badge issues, will be responsible for maintaining departmental compliance with the regulations and obtaining and coordinating necessary information with the Radiation Safety Office.
7. If an employee is aware that his/her badge has been exposed (unexpectedly), it is the employee's responsibility to notify the Radiation Safety Office immediately.

Appendix 2: Student Intake Form Months 1-3

Monthly Student Intake Form
Months 1-3

NI:

Di:

Dept:

Previous Experience:

Goals this month:

Expectations:

Month 1 Objectives:

- Treatment Planning Orientation – Learning the basics
- Learning how to access Eclipse and Mosaic within Clinic
- Eclipse Contouring – and Tools “How-to”
- Learning how to access Imaging and Fusion – Eclipse Registration
- Where and does outside image come from, and why?
- Big picture: How the process of treatment planning fits in



Month 2 Objectives:

- Where to look for Rx
- Gaining more insight into how Mosaic is used
- Tools in Eclipse Planning – Isodose, Colorwash, DVH
- 3D vs IMRT vs VMAT
- Continuation of Contouring Skills
- Isocenter – How to set
- Simulation

Month 3 Objectives:

- Start to grab patient cases (with OK from Dosimetrist) to help contour
- Learning to utilize different tools in contouring – Example (Creating Optimization Structures – Bolus – Artifact)
- 3D Planning Set-ups – Be able to add fields around Isocenter
- 3D Planning – Dynamic Wedges, Field-in-Field
- Imaging – Learning how to add imaging fields/templats to plans

Months 4-6

Monthly Student Intake Form
Months 4-6

Name: _____



Date: _____

Dept: _____

Previous Experience: _____

Goals this month: _____

Expectations: _____

Months 4-6 Objectives:



- Professionalism
- Being open to learning new things
- Understanding how Eclipse and Mosaic is used within each clinic
- Planes of the body/directional terms
- Learning how to utilize contrast/greyscale when registering images
- Understanding Dose as it pertains to Rx – and Treatment
- “Hot-Spots”
- Introduction to Electron Planning
- Wedges vs Dynamic Wedges
- Bolus – When to use?
- Simulation – Why it’s an important aspect to Dosimetry
- Understanding the workflow and how the process moves from clinical consult all the way through patient follow-up
- Dose Limits on OARs
- Dose Rx and Limitations
- Continuation of learning how to add Courses/Plans/Fields
- DVH – How to assess dose to OARs
- Shifting to Isocenter from Set-Up marks
- Begin looking/watching IMRT/VMAT planning
- Learning what Optimization is as it relates to IMRT/VMAT

Student Deliverables:

- 2 Competencies/Month



Months 7-9



Monthly Student Intake Form
Months 7-9

Name:



Date:

Dept:

Previous Experience:

Goals this month:

Expectations:



Months 7-9 Objectives:

- IMRT/VMAT Optimization
- Learning how inverse planning equates to good planning
- Image Fusion and Registration
- Have a complete understanding on how Mosaiq is used in the clinical setting – accessing patient information
- Electron Planning
- Field in Field
- Rx – Confidently understanding what this means
- Planning Directives – Treatment Planning Direction for physician?
- Planes of the body/directional terms
- Shifting to Isocenter from Set-Up marks
- DVH – How to assess dose to OARs
- Taking patient cases (with OK from Dosimetrist) – Contouring and Planning
- Emergency Cases
- Dose Limits on OARs
- Multiple Dose Levels (PTV High, PTV Low)
- Dose Colorwash/Isodose Lines

Student Deliverables:

- 2 Competencies/Month
- Brachytherapy Rotation



Months 10-12



Monthly Student Intake Form
Months 10-12

Name:

Date:

Dept:

Previous Experience:

Goals this month:

Expectations:



Months 10-12 Objectives:

- IMRT/VMAT Optimization
- Image Fusion and Registration
- Have a complete understanding on how Mosaic is used in the clinical setting – accessing patient information
- Electron Planning
- Planning Directives – Treatment Planning Direction for physician?
- Planes of the body/directional terms
- DVH – How to assess dose to OARs
- Taking patient cases (with OK from Dosimetrist) – Contouring and Planning
- Re-Planning with help from Dosimetrist
- Emergency Cases
- Multiple Dose Levels (PTV High, PTV Mid, and PTV Low)
- Deformable Registration
- Isocenter Shifts
- Dosimetry student should be able to move throughout treatment planning process on their own with minimal help from dosimetrist.

Student Deliverables:

- 2 Competencies/Month
- NYPC Rotation

NYPC

New York Proton Center

Student Intake Form – Observational Rotation

Student Name:

Date:

Previous Experience:

Goals this rotation:

Expectation:

Onboarding:

- Clock in/out daily using Trajecsys (location = NYPC)
- Complete daily NYPC attestation
- Receive dosimeter badge
- Introduction to NYPC team

Objectives:

- Observe NYPC workflow and EMR system
- Categorize radiation treatment planning system
 - Proton Cyclotron
 - Components
 - Treatment Planning System
 - Methods of radiation production
 - Accessories
- Explain proton:
 - Properties
 - Energy Deposition
 - Bragg Peak advantage
 - Clinical applications and Treatment Planning
 - Imaging Workflow
 - Planning System Used
 - Back-Up Planning?
 - Registrations

Thank you NYPC Staff!

Appendix 3: Clinical Evaluation Form *To be entered via Trajecsys*

Monthly Clinical Evaluation
To be entered into Trajecsys

Name: _____

Site: _____

YES/NO

1. Student consistently presents a neat and professional appearance and in required uniform to include film and student ID badges.
2. Does this student exhibit confidence in approaching new tasks?
3. Is this student generally helpful in assisting staff and patients?
4. Does student occasionally appear disoriented or inconsistent?
5. Does student generally display a logical “common sense” approach to performing required tasks?
6. Does student have difficulty focusing on required tasks?
7. Does this student follow instructions/directions and work well under pressure?
8. Is student’s confidence level shaken after committing an error?
9. Does this student handle constructive criticism in a positive manner?
10. Does this student tend to rationalize, argue, blame others for, or deny their errors?
11. Is this student’s professional behavior and clinical skills progressing in accordance with expectations?
12. Does student assist in keeping their assigned workplace neat and orderly?
13. Does this student generally demonstrate professional behavior and courtesy?
14. Does the student work well with others and volunteer to assist those in need?
15. Student actively seeks learning experiences and appears eager to demonstrate acquired knowledge.
16. Student generally anticipates what is required for each patient procedure and performs task(s) without prodding.

Instructors/Evaluators Comments Sheet: (Attach additional sheet if needed)

Please use this form if you wish to elaborate upon the student’s strength and/or area, that you feel, need improvement based upon the content of this evaluation and overall student interactions.

For this evaluation period the student’s overall performance has been:

Satisfactory _____ Unsatisfactory _____

Clinical Preceptor’s Signature/Date: _____ Students Signature/Date: _____

Appendix 4: Journal Club Presentation Rubrics

Journal Club Presentation Rubric

**Center for Radiation Sciences Education
Journal Club
Presentation Rubric**



Student: _____

Literature Title: _____

Prompt: The purpose of this presentation is to research, understand, and share a piece of academic literature that relates to radiation therapy.

Journals: JAMA Oncology, Canada's Journal of Medical Imaging and Radiation Sciences, ASRT Publications: Radiologic Technology, Radiation Therapist, Scanner.

Length: 20 minute maximum

	A (100-90)	B (89-80)	C (79-70)	D (69-60)	F (Less than 60)	Total Points
Content Development, Sources, and Evidence	Demonstrates skillful use of high-quality, credible, relevant sources. Communicates, organizes, and synthesizes information from sources.	Demonstrates use of relevant sources. Inadequately communicates, organizes, and synthesizes information from sources.	Demonstrates an attempt to use sources. Communicates fragmented information so intended purpose is not fully achieved.	Demonstrates a weak attempt to use sources although incorrectly. Communicates incorrect information.	Uses sources inappropriately. Does not achieve intended purpose. Sources are misquoted, taken out of context, or incorrectly paraphrased.	
Organization	Organizational pattern is clearly and consistently observable, slides are clear and with appropriate amount of content making the presentation cohesive and appealing.	Organizational pattern is somewhat observable and presentation slides are generally clear.	Organizational pattern is intermittently observable and presentation slides present too much text.	Organizational pattern is weakly observable although hard to follow throughout the presentation, presentation slides are lacking content or overwhelming in amount of text.	Organizational pattern is not observable, slides are unclear and difficult to follow.	
Language	Language choices are imaginative, memorable, and compelling and enhance the effectiveness of the presentation.	Language choices are thoughtful and generally support the effectiveness of the presentation.	Language choices are mundane and commonplace and partially support the effectiveness of the presentation.	Language choices are elementary and minimally support the effectiveness of the presentation.	Language choices are unclear and minimally support the effectiveness of the presentation.	
Growth	Central message is convincing and strongly supported, highlighting many aspects of student learning content.	Central message is consistent with the supporting material highlight some points of learning.	Central message can be deduced, but is not explicitly stated in the presentation. Unclear learning experiences.	Central message is weak and unclear. Key takeaways are misunderstood.	Central message is unclear and unorganized. Lacking content learned.	
Speech	Demonstrates high-quality speaking performance in clear tone and organization. Presentation is engaging and holds strong eye contact throughout.	Demonstrates generally clear tone and organization. Presentation is generally engaging and eye contact is present.	Speaking performance is moderate, lacking eye contact and clear tone.	Speech is rushed or challenging to follow.	Speaking performance is poor, lacking eye contact and clear tone.	

Appendix 5: Grand Rounds Rubrics

Center for Radiation Sciences Education Journal Club Presentation Rubric

Student: _____

Literature Title: _____



Prompt: The purpose of this presentation is to research, understand, and share a piece of academic literature that relates to radiation therapy or medical dosimetry.
Journals: JAMA Oncology, Canada's Journal of Medical Imaging and Radiation Sciences, AAMD, ASRT Publications: Radiologic Technology, Radiation Therapist, Scanner or the International Journal of Radiation Oncology - Biology - Physics (IJBOP), known in the field as the Red Journal.
Length: 20 minutes maximum

	A (100-90)	B (89-80)	C (79-70)	D (69-60)	F (Less than 60)	Total Points
Content Development, Sources, and Evidence	Demonstrates skillful use of high-quality, credible, relevant sources. Communicates, organizes, and synthesizes information from sources.	Demonstrates use of relevant sources. Inadequately communicates, organizes, and synthesizes information from sources.	Demonstrates an attempt to use sources. Communicates fragmented information so intended purpose is not fully achieved.	Demonstrates a weak attempt to use sources although incorrectly. Communicates incorrect information.	Uses sources inappropriately. Does not achieve intended purpose. Sources are misquoted, taken out of context, or incorrectly paraphrased.	
Organization	Organizational pattern is clearly and consistently observable, slides are clear and with appropriate amount of content making the presentation cohesive and appealing.	Organizational pattern is somewhat observable and presentation slides are generally clear.	Organizational pattern is intermittently observable and presentation slides present too much text.	Organizational pattern is weakly observable although hard to follow throughout the presentation, presentation slides are lacking content or overwhelming in amount of text.	Organizational pattern is not observable, slides are unclear and difficult to follow.	
Language	Language choices are imaginative, memorable, and compelling and enhance the effectiveness of the presentation.	Language choices are thoughtful and generally support the effectiveness of the presentation.	Language choices are mundane and commonplace and partially support the effectiveness of the presentation.	Language choices are elementary and minimally support the effectiveness of the presentation.	Language choices are unclear and minimally support the effectiveness of the presentation.	
Growth	Central message is convincing and strongly supported, highlighting many aspects of student learning content.	Central message is consistent with the supporting material highlight some points of learning.	Central message can be deduced, but is not explicitly stated in the presentation. Unclear learning experiences.	Central message is weak and unclear. Key takeaways are misunderstood.	Central message is unclear and unorganized. Lacking content learned.	
Speech	Demonstrates high-quality speaking performance in clear tone and organization. Presentation is engaging and holds strong eye contact throughout.	Demonstrates generally clear tone and organization. Presentation is generally engaging and eye contact is present.	Speaking performance is moderate, lacking eye contact and clear tone.	Speech is rushed or challenging to follow.	Speaking performance is poor, lacking eye contact and clear tone.	

Appendix 6: MD Rotation Rubric

Specialty Rotation Reflective Journal MD Rotation

Student: _____ Topic: _____

Prompt: See student handbook

Length: 4 pages double spaced

Format: APA

Due: 1 week post completion of MD special rotation

	A (100-90)	B (89-80)	C (79-70)	D (69-60)	F (Less than 60)	Total Points
Content Development, Sources, and Evidence	Demonstrates skillful use of high-quality, credible, relevant sources. Communicates, organizes, and synthesizes information from sources.	Demonstrates use of relevant sources. Inadequately communicates, organizes, and synthesizes information from sources.	Demonstrates an attempt to use sources. Communicates fragmented information so intended purpose is not fully achieved.	Demonstrates a weak attempt to use sources although incorrectly. Communicates incorrect information.	Uses sources inappropriately. Does not achieve intended purpose. Sources are misquoted, taken out of context, or incorrectly paraphrased.	
Organization	Organizational pattern (specific introduction and conclusion, and sequenced material within the paper) is clearly and consistently observable and makes the content of the paper cohesive.	Organizational pattern is somewhat observable within the paper.	Organizational pattern is intermittently observable within the paper.	Organizational pattern is weakly observable although hard to follow throughout the paper.	Organizational pattern is not observable within the paper.	
Language	Language choices are imaginative, memorable, and compelling and enhance the effectiveness of the paper.	Language choices are thoughtful and generally support the effectiveness of the paper.	Language choices are mundane and commonplace and partially support the effectiveness of the paper.	Language choices are elementary and minimally support the effectiveness of the paper.	Language choices are unclear and minimally support the effectiveness of the paper.	
Growth	Central message is convincing and strongly supported, highlighting many aspects of student learning content.	Central message is consistent with the supporting material highlight some points of learning.	Central message can be deduced, but is not explicitly stated in the presentation. Unclear learning experiences.	Central message is weak and unclear. Key takeaways are misunderstood.	Central message is unclear and unorganized. Lacking content learned.	
Errors	Paper is error free.	Paper includes minor errors.	Paper presents errors throughout.	Paper has significant errors.	Paper presents with substantial errors which make the content hard to follow.	

Appendix 7: Medical Dosimetry Program Required Competencies

Radiation Treatment Procedure	Date Completed	Verified by Preceptor's Signature
HEAD AND NECK		
Primary Brain (3D Conformal or VMAT/IMRT)		
Primary Head and Neck VMAT/IMRT		
THORACIC		
Lung		
Esophagus		
Intact Breast Tangentials		
Chest Wall Tangentials w/ Supraclavicular and Axilla Fields		
ABDOMEN		
3 or 4 Field Abdomen (VMAT/IMRT)		
Para-aortic or Nodal Irradiation		
PELVIS		
3 Field Pelvis with Wedges		
4 Field Pelvis		
Prostate		
Limb Melanoma/Sarcoma		
Brachytherapy		
Interstitial Implant		
Intracavitary HDR		
Other		
Craniospinal Irradiation		
Palliative (Brain/Spine)		
Lymphoma/Mantle		
Electron Beam Planning		
Fusion (MRI/PET)		
Re-Irradiation or Composite Planning		
Simultaneous Integrated Boost (SIB)		
Stereotactic Body Radiation Therapy (SBRT)		
Additional Recommended Activities		
TBI*		
Brachytherapy HDR Procedure*		
Proton Treatment Planning*		
Stereotactic Radiosurgery*		
Anus/Vulva Conventional 3D Technique		

Observational Simulation Procedures (to be submitted via Trajecsyst)			
	Date Completed	Patient ID#	Instructor(s) Verification
Brain			
Breast			
Head and Neck			
Thorax			
Extremity			
Pelvis			

Appendix 8: Competency Form

MEDICAL DOSIMETRY TREATMENT PLANNING COMPETENCY FORM

Student Name: _____

Treatment Plan for: _____

Evaluator(s): _____

Once competency is submitted for evaluation, please notify the program office.

Date of Submission	
Date Graded	
Date Reviewed with Student	
Date of Presentation	

Please mark each task as P (pass), F (fail), or NA (not applicable). Please indicate at the bottom of the page whether the competency as a whole is a Pass or Fail. **The competency is a Fail if the plan is not treatable or unacceptable for treatment or has an error that makes a significant difference in the distribution as calculated by the treatment planning computer.**

Major Tasks: Failure on any major task constitutes competency failure.	Pass	Fail	NA	Comments
Prescription				
Isocenter/calc point placement				
Tumor volume coverage				
Hot spot distribution				
Block/MLC placement/margin				
Beam angles/placement				
Structures identified/outlined				
Organs at risk dose				
Intensity modulation devices (wedges, compensators, FIF, bolus)				
Dose engine				
Heterogeneous/Homogenous setting				
Planning time (within 16 hours for 3d, 24 for IMRT)				
Record and verify (Mosaik, Aria, etc)				
Software Use: Software errors that cause a major shift in the distribution may be competency failure; other minor errors reduce competency grade.	Pass	Fail	NA	Comment
Image transfer/fusion				
Couch				
Dose grid				

Appendix 9: 2022 Student Orientation handbook School of Health Profession's Health Science.
<https://healthprofessions.stonybrookmedicine.edu/sites/default/files/Certificate%20Programs%202022%20STUDENT%20ORIENTATION%20HANDBOOK.pdf>



**2022 STUDENT ORIENTATION HANDBOOK
SCHOOL OF HEALTH PROFESSIONS**

**Academic Policies
and Procedures,
Rules and
Regulations**

Including
(in the order in
which they appear)

- I. School of Health Professions Mission and Vision Statement
- II. School of Health Professions Policies and Procedures
 - A. Academic Standing
 - B. Academic Dishonesty
 - C. Independent Study and Readings
 - D. Course Waiver
 - E. Challenge Exam
- III. orandum on Uniform Regulations, Miscellaneous Rules and Points of Information
- IV. Student Responsibilities for Clinical Education
- V. Americans with Disability Act
- VI. School Statement on Diversity, Equity and Inclusion
- VII. Policies on Non-Discrimination and Sexual Harassment- Please see the following website:

http://medicine.stonybrookmedicine.edu/ugme/mistreatment_policy
- VIII. Student Participation on School Committees



Stony Brook
Medicine

Appendix 10: Mount Sinai Info Sheets

Mount Sinai Hospital Info Sheet Hess – 1470 Madison Ave SC Level 1184 – 184 5th Ave MC Level

Dosimetry Clinical Preceptor:

Alan Yu: 212-241-4968

Dosimetrists

See below

Attending Radiation Oncologist:

Dr. Bakst – HN, Breast, TBI

Dr. Buckstein – Liver, GI

Dr. Dharmarajan – Palliative

Dr. Goodman – Assoc Director Tisch Cancer Institute, GI

Dr. Green – Breast

Dr. Ghiassi – GYN, GI

Dr. Lazarev – Various

Dr. Rosenzweig – Systems Chair, Lung

Dr. Samstein – Precision Immunology Institute, Brain/Lung

Dr. Salgado – Palliative/HN

Dr. Stock – Prostate

Dr. Yeh – Pediatrics

Machines: 1184

21EX: x40228

TrueBeam3: x45233

21iX: x45765

CT SIM: x45224

Machines: Hess

TrueBeam1: x59488

TrueBeam2: x59486

CT SIM: x594952

Therapy:

Maria Dimopoulos: 646-951-7969

Danielle McDonagh: 347-587-9541

Keith Edwards: x59484

Clodagh Stars: x48911

Dosimetry Program Director:

Vishruta Dumane: 917-596-1098

PHYSICS		
NAME	EXT	DIRECT LINE
General #	41722	212-241-1722
HESS Physics Main	59490	212-824-9490
Alfonzetti, Tyler	44292	212-241-4292
Chao, Ming	59478	212-824-9478
Chum, Thomas	47768	212-241-7768
Dumane, Vishruta	59480	212-824-9480
Jeon, Boaz	41703	212-241-1703
Lo, Yeh-Chi	47764	212-241-7764
Qu, Vicky	45697	212-241-5697
Schelin, Matthew	42640	212-241-2640
Sheu, Rendi	49074	212-241-9074
Tseng, Amber	49073	212-241-9073
Xia, Junyi	59476	212-824-9476
Yu, Alan	44968	212-241-4968
Yuan, Yading	59478	646-564-4275

Mount Sinai West Info Sheet

1000 10th Ave: Lower Level

Dosimetry Clinical Preceptor:

Victoria Olsen: 212-523-7518

Dosimetrists

Helen Chen: 212-523-7518

Attending Radiation Oncologist:

Dr. Dutta – All

Dr. Gliedman – Prostate/Breast/Brain/SRS

Dr. Rosenzweig – Lung

Dr. Saitta – GYN/Breast

Dr. Stewart – Prostate

Physics:

Edward Sudentas: 212-523-7437

Ching-Ling Teng: 212-523-5330

Luke Fu: 212-523-8056

Machines: 1184

TrueBeam: x364640

IX: x364691

CT SIM: x368838

Therapy:

Maria Dimopoulos: 646-951-7969

Danielle McDonagh: 347-587-9541

Natosha Houston: 212-523-6898

Dosimetry Program Director:

Vishruta Dumane: 917-596-1098

Mount Sinai Downtown: Union Square Info Sheet 10 Union Square East: Lower Level

Dosimetry Clinical Preceptor:

Si Ning Chen: x446249

Dosimetrists

Niral Shah: x446249

Cyril Tai: x446249

Attending Radiation Oncologist:

Dr. Chadha – Breast

Dr. Liu – HN

Dr. Stewart – Prostate/HN

Dr. Gupta – SBRT Lung

Dr. Rosenzweig – Lung

Dr. Choi – Pelvis/Anal

Physics:

Chang Seon Kim: x448096

Nadia Vassell: x251791

Ahmad Amoush: x448040

Yong Hum Na: x448639

Machines: 1184

TrueBeam: x446091

IX: x448031

CT SIM: x448085

Therapy:

Maria Dimopoulos: 646-951-7969

Danielle McDonagh: 347-587-9541

Tuan Tran – Lead Therapist: x448031

Dosimetry Program Director:

Vishruta Dumane: 917-596-1098



Mount Sinai Chelsea Info Sheet

The Blavatnik Family Chelsea Medical Center at Mount Sinai

325 West 15th St

Dosimetry Clinical Preceptor:

Si Ning Chen: x446249

Dosimetrists

Niral Shah: x446249

Cyril Tai: x446249

Attending Radiation Oncologist:

Dr. Gupta – GYN

Dr. Chadha – Breast

Dr. Saitta – GYN/Breast

Physics:

Chang Seon Kim: x448096

Nadia Vassell: x251791

Ahmad Amoush: x448040

Yong Hum Na: x448639

Machines: 1184

EX:

TrueBeam

CT SIM

Therapy:

Maria Dimopoulos: 646-951-7969

Danielle McDonagh: 347-587-9541

Denise Kraemer: 212-367-1796

Katherine Gelpi – Lead RTT: x448031

Dosimetry Program Director:

Vishruta Dumane: 917-596-1098



New York Proton Center Info Sheet

225 East 126th Street

Dosimetry Clinical Preceptor:

Andy Shim: 646-968-9034 / ashim@nyproton.com

Dosimetrist:

Attending Radiation Oncologist:

Dr. Charles Simone, Chief Medical Officer

Dr. Isabella Choi, Clinical Director/Director of Research

Dr. Arpit Chhabra, Director of Education

Dr. Shaakir Hasan, GU

Dr. Robert Press, HN

Therapy:

Anh Kha – Supervisor

Andrew Okhuereigbe – Lead RTT

Donny Longo – Lead RTT

Machines:

Machine 1: Peds Anesthesia – CSI, HN, GI, GU

Machine 2: Vision/Align RT – SBRT, CSI, HN, Brain, GI, GU

Machine 3: SDX – SBRT, CSI, HN, Brain, GI, GU

Machine 4: Fixed Beam – Brain, HN, Prostate, Pelvis

Facilities:

Parking Info – Open, free parking lot connected to NYPC building on E 126th Street



Appendix 11: MRI Screening Form

 THE MOUNT SINAI HEALTH SYSTEM		Name: _____	
Mount Sinai Hospital Mount Sinai Queens Mount Sinai West Mount Sinai St. Luke's Mount Sinai Beth Israel Mount Sinai Brooklyn New York Eye and Ear Infirmary at Mount Sinai Mount Sinai Outpatient Faculty Practices		DOB: ____/____/____ Gender: M F	
DEPARTMENT OF RADIOLOGY MAGNETIC RESONANCE IMAGING (MRI) PATIENT SCREENING QUESTIONNAIRE		MRN: _____	
		Location: _____	
		Physician: _____	

INSTRUCTIONS: Please answer each question below. Your responses will allow us to determine your eligibility for an MRI scan. Each box should be marked **individually**—please **do not** simply draw a line down a column.

YES	NO	
<input type="checkbox"/>	<input type="checkbox"/>	1. Do you have a pacemaker, AICD, internal pacing wires, EKG leads or Holter monitor?
<input type="checkbox"/>	<input type="checkbox"/>	2. Do you have an implanted stimulator (including bone growth stimulator, spinal stimulator or cochlear or other ear implant) or medication infusion pump?

STOP → Response of "Yes" to either question above requires **discussion between provider and Radiology** before proceeding.

<input type="checkbox"/>	<input type="checkbox"/>	3. Have you had brain surgery or do you have metallic clips (aneurysm clips) in your head?
<input type="checkbox"/>	<input type="checkbox"/>	4. Have you ever had eye surgery or implants?
<input type="checkbox"/>	<input type="checkbox"/>	5. Have you ever worked around a metal lathe , had metal shavings or fragments in your eye(s), or had a shrapnel (war or gunshot) injury anywhere in your body?
<input type="checkbox"/>	<input type="checkbox"/>	6. Have any devices (e.g., stent, filter, coil or vascular port/catheter) been placed in your blood vessels?
<input type="checkbox"/>	<input type="checkbox"/>	6a. If you do have a stent, is it drug-eluting?
<input type="checkbox"/>	<input type="checkbox"/>	7. Do you have an implanted tissue expander?
<input type="checkbox"/>	<input type="checkbox"/>	8. Do you have a replaced heart valve , other prosthesis or any other surgical implant?
<input type="checkbox"/>	<input type="checkbox"/>	9. Do you have any tattoos, permanent make-up, or piercings?
<input type="checkbox"/>	<input type="checkbox"/>	10. Do you wear hearing aid(s) , either in the ear canal or on the surface? (<i>Remove before entering room</i>)
<input type="checkbox"/>	<input type="checkbox"/>	11. List any other type of metal in or on your body: _____
<input type="checkbox"/>	<input type="checkbox"/>	12. Do you wear a transdermal medication patch (e.g., Nitroglycerin, Nicotine, etc.)?
<input type="checkbox"/>	<input type="checkbox"/>	13. Do you have kidney/renal disease, liver disease, or diabetes?
<input type="checkbox"/>	<input type="checkbox"/>	14. Do you have any allergies? If so, specify: _____
<input type="checkbox"/>	<input type="checkbox"/>	15. Are you claustrophobic (afraid of enclosed or tight spaces)?
<input type="checkbox"/>	<input type="checkbox"/>	16. Are you wearing a RFID or Radiofrequency ID device (commonly a wristband on an inpatient)?
<input type="checkbox"/>	<input type="checkbox"/>	17. If female, are you (or could you be) pregnant or are you breastfeeding?
18. Patient age: _____ years		
19. Approximate patient weight: _____ (pounds) and height: _____ (feet-inches)		
20. Print & sign your name, and indicate date, time & relation to patient:		

WARNING: The MRI magnet is ALWAYS ON! Do not enter the MRI scanner room or the MRI environment if you have any question or concern regarding an implant, device or object. Consult the MRI technologist or radiologist BEFORE entering an MRI room.

<p>FOR PATIENTS REQUIRING ASSISTANCE WITH QUESTIONNAIRE</p> <p><input type="checkbox"/> Information corroborated by chart history (required)</p> <p>NAME OF INDIVIDUAL ASSISTING PATIENT _____ DATE ____/____/____</p> <p>SIGNATURE _____ TIME ____:____ am pm</p>	<p>MRI EMPLOYEE REVIEWING RESPONSES FOR RADIOLOGY</p> <p><input type="checkbox"/> Checklist reviewed and any positive responses addressed/reconciled (required)</p> <p>NAME OF INDIVIDUAL ASSISTING PATIENT _____</p> <p>SIGNATURE _____ TIME ____:____ am pm</p>
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FOR PATIENTS RECEIVING CONTRAST (TO BE COMPLETED IN RADIOLOGY)				
RENAL FUNCTION	CONTRAST AGENT	SITE	VOLUME	RATE
<input type="checkbox"/> Check if drawn as POC in Radiology			mL	mL/s
DRAWN ON: _____ REVIEWED ON: _____ REVIEWED BY: _____ RESULTS: _____ Date ____/____/____ Time ____:____ am pm eGFR _____ mL/min/1.73m ² (Cr _____ mg/dL)	OUTCOME: <input type="checkbox"/> Routine Injection <input type="checkbox"/> Contrast Reaction <input type="checkbox"/> Extravasation <input type="checkbox"/> Other Event See electronic / supplementary documentation for details			

INJECTING PERSONNEL _____

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Appendix 11: JRCERT Standards

<https://www.jrcert.org/accreditation-information/accreditation-standards-2021/>

<p>Standards for an Accredited Educational Program in Radiation Therapy</p> <p>Effective January 1, 2021</p> <p><i>Adopted April 2020</i></p> <p>JRCERT</p> <p><i>Excellence in Education</i></p>	<p>Standards for an Accredited Educational Program in Radiation Therapy</p> <p>Table of Contents</p> <p>Standard One: Accountability, Fair Practices, and Public Information 4 The sponsoring institution and program promote accountability and fair practices in relation to students, faculty, and the public. Policies and procedures of the sponsoring institution and program must support the rights of students and faculty, be well-defined, written, and readily available.</p> <p>Standard Two: Institutional Commitment and Resources 13 The sponsoring institution demonstrates a sound financial commitment to the program by assuring sufficient academic, fiscal, personnel, and physical resources to achieve the program's mission.</p> <p>Standard Three: Faculty and Staff 18 The sponsoring institution provides the program adequate and qualified faculty that enable the program to meet its mission and promote student learning.</p> <p>Standard Four: Curriculum and Academic Practices 26 The program's curriculum and academic practices prepare students for professional practice.</p> <p>Standard Five: Health and Safety 38 The sponsoring institution and program have policies and procedures that promote the health, safety, and optimal use of radiation for students, patients, and the public.</p> <p>Standard Six: Programmatic Effectiveness and Assessment: Using Data for Sustained Improvement 44 The extent of a program's effectiveness is linked to the ability to meet its mission, goals, and student learning outcomes. A systematic, ongoing assessment process provides credible evidence that enables analysis and critical discussions to foster ongoing program improvement.</p> <p>Glossary 50</p> <p>Awarding, Maintaining, and Administering Accreditation 53</p> <p>Radiation Therapy 3</p>
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Appendix 12: Clinical Year Locations

