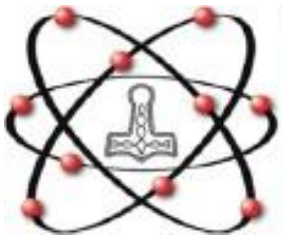

John Patrick University
of Health and Applied Sciences

Clinical Guidance for Students
Medical Dosimetry Programs

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John Patrick University of Health and Applied Sciences

Clinical Guidance for Students: Dosimetry Programs

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Student Responsibilities

Clinical Obligations

Clinical Clearance Screening

JPU has clinical clearance screening requirements for all students prior to the start of their clinical internship. This documentation includes, but is not limited to a background check, drug screen, and immunization records. The accumulation of the required documentation is performed at the student's expense. Some Clinics may require different and/or additional screening requirements. The student is required to comply with all screening requirements mandated by their assigned clinical site. Any fees associated with procuring items required in the clinical clearance screening process are at the student's expense. Clinics that prefer to do their own testing and verification may do so directly with the student. JPU may be asked to perform these services and provide the results to the clinic upon their request.

Clinical Site Placement

JPU is responsible for assigning a clinical site to each student enrolled in the Medical Dosimetry programs. Medical Dosimetry program leadership will grant acceptance into the program to qualified applicants after both the student and clinical site agree to the clinical site assignment. If a clinical site desires to accept a student for placement but it is not currently a recognized JRCERT clinical site for JPU's Medical Dosimetry programs, the clinical site must submit all required paperwork for JPU to seek recognition from JRCERT prior to accepting the clinical site assignment request.

If a student is not granted admission into the Medical Dosimetry program but wishes to enroll in Medical Dosimetry courses as a non-degree seeking student, they may enroll in selected Medical Dosimetry courses approved by JPU at a part-time status for no more than three consecutive semesters if their ultimate goal is to gain acceptance into the Medical Dosimetry program. Students who do not gain admittance into the Medical Dosimetry program after attending as a non-degree seeking student for three consecutive semesters must repeat the admissions interview process.

JPU resolves to make every effort to place student in a location that is within a reasonable distance from their place of residence. Due to availability of clinical sites and student schedules, temporary relocation may be necessary to secure an appropriate clinical site.

Compensation and Hours Requirement

Enrolled students are eligible to begin clinical rotations after completing their first semester, provided the student is in academic and administrative good standing with the University. Students entering the clinical setting for their internship are required to participate no more than ten (10) hours per day. A minimum of 720 hours is required for the clinical internship. Students are not eligible to begin the clinical internship hours until after successful completion of the first semester.

Any hours spent beyond the 10-hour maximum per day will not count toward the 720-hour requirement. The student is not entitled to compensation or extra credit of any kind.

Evening/weekend clinical assignments are not required or encouraged. If measures must be taken in order to ensure adequate clinical time, proposals will be considered and must be agreeable to the student, University and clinical site.

Clinical Internship Completion Policy

The Medical Dosimetry program requires prompt completion of the clinical internship concurrently

with didactic instruction as outlined by the Joint Review Committee on Education in Radiologic Technology (JRCERT).

Students are required to submit their internship journal including all required paperwork outlined in the *Clinical Guidance for Students* document no later than thirty (30) days after completion of the 720 hours. If the student has not submitted the required journal documentation within the stated time frame, they are considered non-compliant with Clinical Obligations required for the program and will be placed on Administrative Hold. Refer to the Administrative Hold Policy in the ACADEMIC POLICIES section of the Academic Catalog.

Tuition for the clinical internship is charged during the last semester of didactic instruction. Failure to complete the internship hours or submit the clinical journal within the timeframe outlined in this policy will result in tuition for the clinical internship being charged to the student's account each semester the student is enrolled in the clinical internship after didactic instruction is complete.

Students who are unable to start their internship during the second semester of the program or maintain minimum hours per week outlined by this policy due to unforeseen circumstances beyond the control of student will not automatically be subject to tuition being charged for each semester the student is enrolled in the clinical internship after didactic instruction is complete. The President and Program Director will address unforeseen circumstances on a case-by-case basis.

Loss of an Assigned Clinical Site or Failure to Accept a Site Assignment
There are various reasons why a student may lose an assigned clinical site either before or after they begin their clinical internship. Some reasons may be unpredictable and/or unpreventable by the University. Any student who loses their assigned clinical site must accept the next clinical site assignment they are offered, even if it means temporary relocation is required. Program leadership makes every effort to consider the student's current location when working on clinical site assignments. If the student chooses not to accept the subsequent clinical site they are offered, they are considered non-compliant with Clinical Obligations required for the program and will be placed on Administrative Hold. Refer to the Administrative Hold Policy in the ACADEMIC POLICIES section of the Academic Catalog.

Screening Process
Review
1. Watch the Clinical Internship Expectations video

Documentation

- Create your account in Castlebranch by going to https://portal.castlebranch.com/jc68 and setting up your account.
- Order your package: RV98 (background check, drug test, and medical document manager).
- If you have questions or need assistance from Castlebranch Technical Support, ways to contact them are located HERE.
    - CPR – American Red Cross or American Heart Association Healthcare Provider CPR Course
    - Health Insurance
    - Drug test
    - Background check
    - TB – Quantiferon Gold blood test completed within the past 12 months
    - Hepatitis B*

- Rubella*
- Rubeola*
- Mumps*
- Tdap*
- Varicella*
- Annual flu shot
- Annual radiation safety training form
- Annual MRI safety training form
- Complete the HIPPA and OSHA Completion Form located on Castlebranch

*This requires immunization documentation submitted or a titer.

- Submit the signed **Medical Dosimetry Clinical Internship Acknowledgement** Form

Training

1. Complete Radiation Safety Training
    a. Submit the Radiation Safety Training Form
    b. Complete the Radiation Safety Quiz
2. Complete MRI Safety Training
    a. View the training video
    b. Sign and submit the MRI Safety Form
    c. Fill out and submit the MRI Safety student screening form
3. Complete HIPAA and OSHA Training
    a. View the HIPAA and Cultural Diversity Video (PowerPoint is also available)
    b. View the Infection Control Video
    c. Review the Blood Borne Infection Control Guidelines
    d. Review the Infection Control PowerPoint
    e. Review the OSHA and Healthcare PowerPoint
    f. Complete the Infection Control Quiz
    g. Complete the HIPAA and OSHA Completion Form

Dosimeter

When you receive your dosimeter from JPU in the mail, complete and submit the JPU Dosimeter Policy.

Once all items are completed, JPU will reach out to your preceptor to schedule a starting date and Preceptor/Student meeting. You'll receive confirmation that you may start your internship hours.

Clinical Competencies

<u>You are required to complete every competency</u>. Students in the Bachelor's Medical Dosimetry

program are required to complete all competencies listed in the "BS Medical Dosimetry Clinical Competencies" document available through JPU's online campus. Students in the Master of Science in Medical Dosimetry program are required to complete all competencies listed in the "MS Medical Dosimetry Clinical Competencies" document available through JPU's online campus.

"Completion" is defined as carrying out all the activities listed under the "deliverable" heading of the list of clinical competencies, and then having your site coordinator verify completion and then sign off the competency as completed.

You are expected to complete the clinical competencies prior to graduation. The specific timeline for doing so is ultimately your responsibility, but, as noted above, the site coordinator should be involved in developing a schedule for completing the work. Running over this time period is not in and of itself an issue, so long as timely progress continues. Meet regularly with your site coordinator to evaluate your progress.

You are required to turn in your journal, which must include ALL calculations, observations, discussions, etc. for deliverables.

Here are some important points to bear in mind during your internship:

- ✓ Remember during your internship that you are a professional representing JPU.
- ✓ Be aware of patient information privacy, site security, and site confidentiality issues. If you ever have any questions in this area, you should consult your site coordinator before proceeding.
- ✓ You should not work alone during your internship. When asked to "perform" a task, don't carry it out if you are uncomfortable with the procedure, unfamiliar with the procedure, or would be performing a task that you are not licensed or certified to perform if licensing or certification is necessary. Direct patient contact procedures ***must*** be performed under the direct supervision of a credentialed practitioner. Always arrange working times with your coordinator.
- ✓ Get trained in radiation, chemical, biological and other health & safety concerns. Talk with your site coordinator to schedule training in these areas if you have not been trained on them on-site.

Clinical Structure

The timeline below represents the student's expected progress through the clinical internship. This is provided as a sample for general guidance. Due to the nature of the clinical program and clinical sites, certain competencies may be engaged at a schedule that differs from that presented below.

***During the entire clinical internship, students are responsible for the JPU Clinical Competencies as provided in the Clinical Competencies Checklist.

The schedule below is separated into 4 tracks, each consisting of 180 hours. Feedback is provided to the student and the program by the preceptor on the student's progress after each

track utilizing the feedback forms provided.

Track 1
Professionalism and Ethics (outline provided)
Clinical Process: ✓ Observation with Physician ✓ Observation with Nurse ✓ Observation with Therapist ✓ Chart Rounds ✓ Tumor Boards
Simulation Process and Procedures
Treatment Process and Procedures
Treatment Planning Process and Procedures, EMR
Radiation Safety in Radiation Oncology
3D and IMRT Planning
JPU Clinical Competencies ***

Track 2
Safety is No Accident Module
3D and IMRT Planning
VMAT Planning
Image Fusion
Patient Treatment QA
Radiation Safety in other Disciplines (Nuclear Medicine / Radiology)
RTOG Protocols
Literature Review Due (for graduate program students only)
JPU Clinical Competencies ***

Track 3
AAPM Task Group 100: Risk Assessment
3D and IMRT Planning
VMAT Planning
Specialty Procedures (e.g.-Brachytherapy)
Plan Benchmarking
Radiation Safety Meeting
Physics QA
JPU Clinical Competencies ***

Track 4
3D and IMRT Planning
VMAT Planning
Specialty Procedures
Patient QA and Physics / Dosimetry Consult
Medical Informatics in Oncology
Physics QA
Clinical Research Project Due (for graduate program students only)
JPU Clinical Competencies ***

Professionalism and Ethics	How covered	Comments
Professionalism		
○ Definition of a profession and professionalism		
○ Elements of a profession		
○ Definition of a professional		
○ Elements of professionalism		
○ How is professionalism judged?		
○ Do's and don'ts of professionalism		
○ Physician's charter and applicability to physicists		
Leadership		
○ Vision and charisma		
○ Qualities of leaders		
○ Rules of leadership		
○ Causes of leadership failure		
Ethics		
○ Ethics of a profession		
○ Ethics of an individual		
○ Interactions with colleagues and co-workers		
○ Interactions with patients and the public		
○ Confidentiality		
○ Peer review		
○ Negotiation skills		
○ Relationships with employers		
○ Conflicts of interest		
○ Ethics in research		
○ Use of animals in research		
○ Use of humans in research		
○ Relationships with vendors		
○ Publication ethics		
○ Ethics in graduate and resident education		
○ Selected case studies		

Literature Review
Each Medical Dosimetry graduate program student must complete a clinically oriented research project. The literature review is the first step of this process and is due at the end of Track 2. The literature review accomplishes the following steps of the research process:

1. Decide on a topic
2. Identify literature on the topic and analyze
3. Summarize the findings and write a review
4. Identify your hypothesis and method for data collection and review

The following mentors can assist with your literature review and research project on areas such as applicable topics, validity of research methods, and timeliness and quality of research:

- ✓ Nadeem Khan DHA, MS, DABR, CHFP, FACRO, FAHM, FHIAS, FACMPE
- ✓ Steve Goetsch, Ph.D., DABMP

Your literature review must be submitted to the Dosimetry Clinical Clearance tile in Canvas along with your Track 2 completion paperwork. You will not be approved to continue to Track 3 until your literature review has been submitted.

Research Project
Each Medical Dosimetry graduate program student must complete a clinically oriented research project. The literature review is the first step of this process. Once the literature review is complete and approved by the mentor, perform research by collecting data and analyzing results. The research project is due at the end of Track 4. Although not required to receive credit, options for your research project include submitting your paper for publication, presenting a poster at a professional meeting, or delivering a lengthy presentation.

Your research paper must be submitted to the Program Director, along with your Track 4 completion paperwork.

Clinical Preceptor Role

The role of the Clinical Preceptor is to maintain knowledge of the program mission and goals, understand the clinical objectives and clinical evaluation system, monitor and evaluate student's progress and clinical competence, provide students with clinical instruction and supervision, participate in the assessment process as appropriate, and possess current knowledge of, and enforce, current program clinical policies and procedures.

Clinical Staff Role

The role of Clinical Staff is to understand the clinical competency system, understand requirements for student supervision, possess current knowledge of program clinical policies and procedures, and support the educational process by monitoring and evaluating student's progress and clinical competence, as appropriate.

JPU Medical Dosimetry Internship
Track 1 Student Evaluation

This form is to be completed by the preceptor at the completion of Track 1 (180 contact hours) of clinical internship. Preceptors should schedule a conference with the student at the completion of Track 1 to discuss student progress and potential areas for improvement. The preceptor must indicate whether the student is eligible to continue to Track 2 (Question #5 below). This form must be signed by the preceptor and student and returned to the school office for retention in the student's record.

Clinical Site_____

_____ _____
Evaluator Name Student Name

1. Please indicate what clinical processes (e.g. observation with a nurse, chart rounds, tumor board) the student observed/completed during Track 1.

2. List simulation procedures the student participated in during this track.

3. Indicate treatment delivery procedures the student observed during this track.

4. Is the student able to answer questions/demonstrate radiation safety practice in radiation oncology? If no, please explain.

5. Did the student follow the direct supervision requirement while involved with patient contact competencies?

6. Is the student competent and prepared to proceed to Track 2 of the clinical internship experience? If no, please explain.

Preceptor Signature:_____ Date: _____

Student Signature:_____ Date: _____

JPU Medical Dosimetry Internship
Track 2 Student Evaluation

This form is to be completed by the preceptor at the completion of Track 2 (360 total contact hours) of clinical internship. Preceptors should schedule a conference with the student at the completion of Track 2 to discuss student progress and potential areas for improvement. The preceptor must indicate whether the student is eligible to continue to Track 3 (Question #5 below). This form must be signed by the preceptor and student and returned to the school office for retention in the student's record.

Clinical Site_____

_____ _____
Evaluator Name Student Name

1. Please indicate what patient treatment QA the student observed/completed during Track 2.

2. List types of treatment planning procedures (e.g. 3-D, IMRT, etc.) the student participated in during this track.

3. Is the student able to answer questions/demonstrate clinically relevant treatment protocols? (e.g. RTOG, NRG, ESTRO, ASTRO, etc.) If no, please explain.

4. Is the student able to answer questions/demonstrate radiation safety practice in other disciplines (Nuclear Medicine, MRI, Radiology, etc.)? If no, please explain.

5. Did the student follow the direct supervision requirement while involved with patient contact competencies?

6. Is the student competent and prepared to proceed to Track 3 of the clinical internship experience? If no, please explain.

Preceptor Signature:_____ Date: _____

Student Signature:_____ Date: _____

JPU Medical Dosimetry Internship
Track 3 Student Evaluation

This form is to be completed by the preceptor at the completion of Track 3 (3 total contact hours) of clinical internship. Preceptors should schedule a conference with the student at the completion of Track 3 to discuss student progress and potential areas for improvement. The preceptor must indicate whether the student is eligible to continue to Track 3 (Question #5 below). This form must be signed by the preceptor and student and returned to the school office for retention in the student's record.

Clinical Site_____

_____ _____
Evaluator Name Student Name

1. Please indicate what physics QA the student observed/completed during Track 3.

2. List types of treatment planning procedures (e.g. 3-D, IMRT, VMAT, etc.) the student participated in during this track.

3. Is the student able to answer questions/demonstrate understanding of AAPM Task Group 100? If no, please explain.

4. Please indicate what specialty procedures (e.g. Brachytherapy, SRS, SBRT, etc.) the student observed/completed during Track 3.

5. Did the student follow the direct supervision requirement while involved with patient contact competencies?

6. Is the student competent and prepared to proceed to Track 4 of the clinical internship experience? If no, please explain.

Preceptor Signature:_____ Date: _____

Student Signature:_____ Date: _____

JPU Medical Dosimetry Internship
Track 4 Student Evaluation

This form is to be completed by the preceptor at the completion of Track 4 (720 total contact hours) of clinical internship. Preceptors should schedule a conference with the student at the completion of Track 4 to discuss student achievement during the clinical internship and potential professional life-long learning opportunities. The preceptor must indicate whether the student is eligible to complete the clinical internship course (Question #5 below). This form must be signed by the preceptor and student and returned to the school office for retention in the student's record.

Clinical Site_____

_____ _____
Evaluator Name Student Name

1. Please indicate what patient specific QA and physics QA procedures the student completed during Track 4.

2. List types of treatment planning procedures (3-D, IMRT, VMAT, etc.) the student participated in during this track.

3. Is the student able to answer questions/demonstrate understanding of medical informatics, including billing for clinical procedures? If no, please explain.

4. Please indicate what specialty procedures (Brachytherapy, SRS, SBRT, etc.) the student completed during Track 4.

5. Did the student follow the direct supervision requirement while involved with patient contact competencies?

6. Is the student eligible to complete the clinical internship experience? If no, please explain.

Preceptor Signature:_____ Date: _____

Student Signature:_____ Date: _____

Specific Guidance on Deliverables

“View Presentation”
This indicates that the student should watch a presentation or lecture corresponding to the topic. The presentations will be made available through the JPU course management system in a similar fashion to the lectures for didactic courses. If a particular presentation is available, the student is expected to watch it, even if the student is excused from other parts of that competency. The only means of being excused from watching a presentation is if that particular presentation is not available.

“Discuss in Journal”
This indicates that the student should discuss any associated deliverables and topics in the competency. This could include commenting on the contents of a lecture, recording observations of a procedure, summarizing a report, recording notes taken during a calibration, and so on. The specifics of the journal are discussed below.

“Document” / “Document and Discuss”
This indicates that the student is expected to provide relevant documentation, if any, for the other deliverables or activities in the competency. For instance, this could mean attaching a completed copy of worksheets or checklists used in a calibration. Be sure to respect any confidentiality and patient privacy needs when attaching documents.

If a competency does not have a “document” deliverable, do not assume that there is no documentation that may need to be attached. “Document” indicates that there will be an attachment; its absence does not indicate that there is no attachment. If you have any questions, please ask your coordinator or contact the school.

“Attend”
This indicates that the student is expected to sit in on a session or meeting. If your coordinator is not present at the meeting, have one other attendee countersign the coordinator's signature. For repeated meetings such as chart rounds, it is only necessary to have one countersignature.

“Observe”
This indicates that the student should observe a procedure. Shadow one of the physicists present, if possible, otherwise a dosimetrist, therapist, service engineer or other worker appropriate to the activity. Do not perform any action that you are uncomfortable in performing, untrained to perform, or incapable of performing.

“Perform”
This indicates that the student is to carry out an activity. Coordinate ahead of time with your coordinator a time to carry out these tasks—do not work alone, and do not work without your coordinator's approval. Do not attempt to perform any procedure that you are uncomfortable in performing, untrained to perform, or incapable of performing.

“Identify”
This indicates that the student should identify the equipment on-site, and provide spec sheets and other relevant reports, if possible.

Mandatory Competency Evaluation Form
Each competency completed must have a Mandatory Competency Evaluation Form provided. The Evaluation Form is part of this document. The Clinical Preceptor at each clinical site is required to use this Evaluation Form for each competency completed.

Student Journal

The primary student-generated deliverable for the internship is your student journal. You are expected to update this journal regularly (ideally every day you are working at the site) as a log of what you learn, study, and experience during your internship. There are specific activities and calculations that are called out in the CC document, but you should view the journal as a place to record your thoughts, ideas, observations, and notes in addition to being a place to record your formal responsibilities. The quality and completeness of your journal reflects on your overall experience during the internship. It is also intended to be completed over the course of your internship, so it is important that you make regular entries.

We would like to have your journal organized by competency, if possible. Use the code numbers given in the CC document (for instance, Sample Analysis by Scintillation Detection is #R1). Organize your journal in a way that will allow you to keep this format while being able to update regularly.

You must have an entry for each competency on the list. The entry must at least include the calculations, discussions, or other activities that are specified in the CC document under the "deliverable" heading. A discussion should be included with ANY calculation or observation, even if not specifically called out in the CC document. For instance, if you are asked to "observe a wipe count," your discussion should include the details of what you observed as the wipe was taken and counted, which could include the area of the facility that was wiped, the size of the wipe area, the type of counter used, the reason for doing the wipe survey, the regulations that required that survey, etc.

Please attempt to keep all documents, whether printouts or scratch paper etc., in the same format, so that you have one cohesive "journal" to turn in. Although the minimum is to complete the deliverables, you are very strongly encouraged to add any other documents, notes, etc. that you generate. You will want to keep a copy of any important documents or notes, however, for your later reference, as your journal will NOT be returned to you.

You may keep your journal electronically or on paper. In either case, you are expected to keep it in prosaic, scientific-writing style. Narrative style is acceptable when documenting a procedure but be sure to explain what you are doing as you document doing it. All sources/references are to be cited using AMA format.

If you are keeping your journal on paper be aware that you will be doing a very large amount of writing: write in pen and legibly enough to be read. Include a written journal in the same binder as the CC sheet, if at all possible.

If you are keeping your journal electronically, please keep it as a .DOC or .ODT file, or other text-document format. Do not keep it as a spreadsheet or PowerPoint presentation, as these are not conducive the prosaic style of writing expected of you. Back up your journal regularly!

Rubric for Internship Journal

Note: A score of 3 or higher in each evaluation area must be achieved for successful completion of the internship journal.

Score Levels	Content	Conventions	Organization	Scope/Detail
4	▪ Is well thought out and presented ▪ Indicates high level application of critical thinking skills ▪ Has all required components ▪ Is factually accurate	▪ No spelling, grammatical, or punctuation errors ▪ High-level use of vocabulary and word choice	▪ Information is clearly focused in an organized and thoughtful manner ▪ Information is constructed in a logical pattern to enhance understanding.	▪ Includes detailed information for each case or project presented Is comprehensive and covers all relevant aspects of the case or project
3	▪ Is fairly well thought out and presented ▪ Indicates critical thinking that is apparent to the reader ▪ Has all required components ▪ Is accurate	▪ Few spelling, grammatical, or punctuation errors ▪ Good use of vocabulary and word choice	▪ Information is clearly focused in an organized manner with a few minor lapses. ▪ Information is constructed in a logical manner with minor lapses	▪ Includes detailed information for cases or projects presented with minor lapses ▪ Is comprehensive and covers all relevant aspects of the case or project with minor lapses
2	▪ Appears somewhat disorganized and not well thought out ▪ Indicates low level critical thinking skills ▪ Has most required components ▪ Has some factual errors or inconsistencies	▪ Significant spelling, grammatical, or punctuation errors but content can be understood by the reader ▪ Low-level use of vocabulary and word choice	▪ Information has a focus but lapses are obvious. ▪ Information appears to have a pattern, but the pattern is not consistently carried out.	▪ Includes detailed information for some cases or projects with obvious lapses ▪ Clear lapses in comprehensiveness of information presented
1	▪ Content not well thought out and is confusing ▪ Has no apparent application of critical thinking skills ▪ Has some required components ▪ Has significant factual errors, misconceptions, or misinterpretations	▪ Numerous spelling, grammatical, or punctuation errors impeding understanding of content ▪ Poor use of vocabulary and word choice	▪ Content is unfocused and haphazard. ▪ Information is not constructed in a logical manner	▪ Information is obviously unfinished with major gaps in detail and comprehensiveness
0	▪ Journal is submitted with blatant errors in content or is plagiarized	▪ Poorly written to the point of being incomprehensible to the reader	▪ Information is extremely confusing in its organization or there is no organization	▪ Very little to no detail included

Evaluator Name_____ **Date** _____

Categories	Student Score and Notes
Content	**Score (circle one): 0 1 2 3 4** **Comments:**
Conventions	**Score (circle one): 0 1 2 3 4** **Comments:**
Organization	**Score (circle one): 0 1 2 3 4** **Comments:**
Scope/Detail	**Score (circle one): 0 1 2 3 4** **Comments:**

Overall Evaluator Comments:

Policies

Pregnancy Policy
Students should understand that a pregnancy during the Medical Dosimetry program may have an impact on their education and possibly upon the timing of graduation. Two important factors are involved.

1. Courses are only offered at select times each year and time missed for pregnancy and/or delivery will likely necessitate make up work or perhaps delay of up to a year to maintain the proper sequence of courses, depending on the timing and amount of time missed.
2. There are potential risks to an embryo or fetus secondary to radiation exposure that may require counseling and alteration of the clinical education experience.

The following policy has been developed to guide the program and its students in the event of a student pregnancy.

A. Female students are asked to read The U. S. Nuclear Regulatory Commission Regulatory Guide 8.13 regarding "Possible Health Risks to Children of Women Who are Exposed to Radiation During Pregnancy"as well as the pregnancy policy and complete and return the associated form. This document can be found at: http://pbadupws.nrc.gov/docs/ML0037/ML003739505.pdf.
B. All students will be made aware of risks and hazards of prenatal radiation exposure during coursework at JPU and upon orientation to the clinical internship.
C. A student who is pregnant, or suspects that she may be, has the option to voluntarily declare that condition to program officials.
    a. If the student decides to declare the pregnancy it shall be done in writing to the Program Director and/or the Clinical Supervisor of her internship site. The notification shall also include the expected date of delivery.
    b. A student may reverse their pregnancy declaration at any time. This option is voluntary and the reversal must be provided in writing to the Program Director and/or the Clinical Supervisor of her internship site.
    c. The program will comply with student confidentiality requests as much as possible.
D. If a student chooses to declare a pregnancy, a counseling session will be set up with the radiation safety officer at the student's clinical internship site to review radiation exposure risks and any additional monitoring practices which may be initiated.
E. A declared pregnant student may choose one of the options below (or may choose to change to a different option at a later time if desired, with written notice):
    a. Take a leave of absence from the program. (See policy for leave of absence.) Should the declared pregnant student decide to leave the program during pregnancy and delivery, tuition will be refunded according to the Tuition Refund Policy. In this circumstance the student would be readmitted to the program at the first available opening after delivery.
    b. Stay in the program, but make modifications in her clinical rotation schedules to reduce the chance of exposure to the fetus.
        i. For example, she will not participate in site specific rotations as recommended by the Radiation Safety Officer during the time of the pregnancy.

    Competency and experience in all required areas will be made up following

delivery. This could delay graduation beyond the originally expected date.

c. Stay in the program and/or internship during pregnancy and continue the program without modification of learning activities or clinical rotations. If she decides to do this, she does so in full knowledge of the potential hazard of embryo/fetal radiation exposure.
    i. It is recommended that the student consult their personal physician should they choose this option. The student must also indicate, in writing her intention to continue the program without modification. A copy of this document will be kept in the student's file.

Should delivery occur during clinical internship, all course work and clinical time must be completed before the student is eligible for graduation.

Student Radiation Safety Policy

A. Students entering the clinical setting for their internship must receive orientation to radiation safety practices and requirements by the Radiation Safety Officer.
B. A radiation monitoring badge must be worn by the student at all time while in the department. JPU assigns a dosimeter to each student prior to entering their clinical setting.
C. Students assisting in the simulator and treatment units must never be in the room during exposure to treatments
D. Students working in brachytherapy must remember and put to use techniques of time, distance, and shielding.
E. Radiation exposure levels will be monitored by the University RSO annually. If a student's radiation exposure reading exceeds (30 mrem) on a single report, the program director must be informed immediately. The RSO and program director will investigate the reason for the reading and determine an action plan within 10 days to ensure that the student follows ALARA principles.
F. If the student exceeds the trigger dose limit (30 mrem) on any personal monitoring report, the student must be removed from the clinical setting and counseled immediately by the University RSO on how to avoid further exposure.
G. Notification: Students in the clinical setting have access to their readings at any time through a secure username and password. Students receive notifications monthly telling them to review their reading or contact the clinical coordinator. Correspondence to students monthly also includes informing them of the trigger dose of 30 mrem and the procedure to follow if their reading exceeds the trigger dose on a single reading. Annual reports reviewed by the University RSO are provided to the student within 30 school days after being reviewed. Students receive the report through their University student account through a secured username and password. No personal information will be visible to individuals other than the one named on the report.

MANDATORY COMPETENCY EVALUATION FORM

Student Name:_____ Date: _____

Evaluator Name: _____ Site: _____

This form is to be completed by the evaluator.

Evaluator: Please mark each task as P (pass), F (fail), or NA (not applicable). For mastery, the student must Pass in each Task listed below unless a specific task is determined N/A by the evaluator.

The competency is a Fail and should be repeated by the student for mastery attainment if the plan is not treatable or unacceptable for treatment or has an error that makes a significant difference in the distribution. Documentation of a Failed competency should be submitted to the program for statistical analysis.

Task	Pass	Fail	N/A	Evaluator Comments
1. The student completed the plan independently				
2. Treatment Prescription followed				
3. Isocenter/Calc Point Placement				
4. Treatment structures identified (CTV, PTV, etc.)				
5. Treatment structures covered adequately				
6. Critical structures contoured (OAR, etc)				
7. Critical structure doses appropriate				
8. Hot spot placement				
9. Beam angle selection				
10. Treatment accessory devices appropriately utilized				
11. Dose engine/algorithm appropriate				
12. Heterogeneity appropriately selected				
13. Appropriate Dose grid selection				

MANDATORY COMPETENCY EVALUATION FORM

Task	Pass	Fail	N/A	Evaluator Comments
14. Image transfer/Fusion				
15. Tx Couch contoured appropriately				
16. Minor contours correct				
17. Independent calculation performed (Hand calc., Computer MU Calc., etc.)				
18. Record and Verify System information correct				
19. Plan can be implemented clinically				
20. Overall plan appropriateness acceptable				
21. Overall plan quality acceptable				
22. Student obtained plan approval from a certified medical dosimetrist or other credentialed practitioner as appropriate prior to treatment				
23. Student obtained plan approval from physician				
24. Planning time reasonable				
25. Able to answer questions relevant to planning of case (cognitive evaluation)*				
26. Interact with others in a mentoring/mentee role as appropriate (affective evaluation)				
27. Courteous and professional behavior displayed (affective evaluation)				
28. Virtual interaction/communication with others in a clinical capacity are appropriate and effective (affective evaluation)				

MANDATORY COMPETENCY EVALUATION FORM

* Note: Examples of appropriate questions include the following:

1. What would be other possible treatment options for this clinical case?

2. What possible complications might the patient experience as a result of this treatment dose?

3. What are difficulties that the radiation therapist may experience when implementing this treatment plan?

4. What are some benefits of this particular treatment delivery modality, energy, beam arrangement, etc?

Evaluator Comments:

_____
_____
_____
_____

Student Comments:

_____
_____
_____
_____

_____ _____

Student Signature **Date**

_____ _____

Evaluator Signature **Date**

Exhibit A

RTU Medical Dosimetry Educational Program Internship

Mandatory Competency Evaluation Form Grading Rubric

The grading rubric below is designed to clearly identify expected behaviors for each item in the Mandatory Competency Evaluation Form. Evaluators are encouraged to include an explanation when an item is marked "N/A".

Task	Pass	Fail	N/A
1.The student completed the plan independently	The student completed all work on the treatment plan working independently	The student did not complete all work on the treatment plan working independently	This item must be completed by the preceptor. N/A will result in student's failure of the competency.
2. Treatment Prescription followed	The student followed the prescription as written by the physician	The student failed to follow the prescription as written by the physician	This item is not applicable to this competency.
3. Isocenter/Calc Point Placement	The student placed the isocenter and/or calculation point properly for this plan based on accepted planning practice and patient anatomy	The student failed to place the isocenter and/or calculation point properly based on accepted planning practice and patient anatomy	This item is not applicable to this competency.
4. Treatment structures identified (CTV, PTV, etc.)	The student identified and segmented (contoured) treatment structures properly for this plan based on accepted planning practice and patient anatomy	The student failed to identify and/or segment (contour) treatment structures properly for this plan based on accepted planning practice and patient anatomy	This item is not applicable to this competency.
5. Treatment structures covered adequately	Treatment plan for the clinical case achieved adequate coverage of treatment structures (PTV, CTV, etc) according to clinical practice standards as specified by RTOG protocol, clinical protocol, and/or physician prescription.	Treatment plan for the clinical case failed to achieve adequate coverage of treatment structures (PTV, CTV, etc) according to clinical practice standards as specified by RTOG protocol, clinical protocol, and/or physician prescription.	This item is not applicable to this competency.
6. Critical structures contoured (OAR, etc)	The student identified and segmented (contoured) critical structures properly for this plan based on accepted planning practice and patient anatomy	The student failed to identify and segment (contour) critical structures properly for this plan based on accepted planning practice and patient anatomy	This item is not applicable to this competency.
7. Critical structure doses appropriate	Treatment plan for the clinical case achieved adequate coverage of critical structures according to clinical practice standards as specified by RTOG protocol, clinical protocol, and/or physician prescription.	Treatment plan for the clinical case did not achieve adequate coverage of critical structures according to clinical practice standards as specified by RTOG protocol, clinical protocol, and/or physician prescription.	This item is not applicable to this competency.
8. Hot spot placement	Treatment plan for the clinical case achieved placement of hot spot according to clinical practice standards as specified by RTOG protocol, clinical protocol, and/or physician prescription.	Treatment plan for the clinical case failed to achieve placement of hot spot according to clinical practice standards as specified by RTOG protocol, clinical protocol, and/or physician prescription.	This item is not applicable to this competency.

9. **Beam angle selection**	The student selected beam angles properly for this plan based on accepted planning practice and patient anatomy	The student failed to select beam angles properly for this plan according to accepted planning practice and patient anatomy	This item is not applicable to this competency.
10. **Treatment accessory devices appropriately utilized**	The student selected treatment accessory devices (wedges, custom blocks, bolus, etc.) properly for this plan based on accepted planning practice and patient anatomy	The student failed to select treatment accessory devices (wedges, custom blocks, bolus etc.) properly for this plan according to accepted planning practice and patient anatomy	This item is not applicable to this competency.
11. **Dose engine/algorithm appropriate**	The student selected the dose engine/calculation algorithm (e.g. Pencil Beam, AAA, Monte Carlo, etc.) properly for this plan based on accepted treatment planning practice	The student failed to select the dose engine/calculation algorithm (e.g. Pencil Beam, AAA, Monte Carlo, etc.) properly for this plan according to accepted treatment planning practice	This item is not applicable to this competency.
12. **Heterogeneity appropriately selected**	The student utilized heterogeneity corrections properly for this plan based on accepted treatment planning practice	The student failed to utilize heterogeneity corrections properly for this plan according to accepted treatment planning practice	This item is not applicable to this competency.
13. **Appropriate Dose grid selection**	The student ensured that the dose grid for the plan calculation was appropriate based on accepted treatment planning practice	The student failed to ensure that the dose grid for the plan calculation was appropriate according to accepted treatment planning practice	This item is not applicable to this competency.
14. **Image transfer/Fusion**	The student performed image data set transfer and fusion (if required) properly for this plan based on accepted planning practice and patient anatomy	The student failed to perform image data set transfer and fusion (if required) properly for this plan based on accepted planning practice and patient anatomy	This item is not applicable to this competency.
15. **Tx Couch contoured appropriately**	The student contoured the treatment/simulation couch properly for this plan based on accepted planning practice and patient anatomy	The student failed to contour the treatment/simulation couch properly for this plan	This item is not applicable to this competency.
16. **Minor contours correct**	The student contoured any minor structures (e.g. carina, T-12, etc.) properly for this plan based on accepted planning practice and patient anatomy	The student failed to contour minor structures (e.g. carina, T-12, etc.) when needed or contoured them improperly for this plan	This item is not applicable to this competency.
17. **Independent calculation performed (Hand calc., Computer MU Calc., etc.)**	The student performed an independent calculation (e.g. hand calc, computer-based MU calc) properly for this plan using accepted planning practice	The student did not perform an independent calculation or failed to perform the independent calculation (e.g. hand calc, computer-based MU calc) properly according to accepted planning practice	This item is not applicable to this competency.
18. **Record and Verify System information correct**	The student entered and/or verified the Record and Verify information properly for this plan using accepted planning practice	The student failed to enter and/or verify the Record and Verify information properly for this plan using accepted planning practice	This item is not applicable to this competency.

19. **Plan can be implemented clinically**	The student ensured that the treatment plan can be implemented in the clinic through interaction with other clinical team members (e.g. therapist, dosimetrist, radiation oncologist)	The student failed to ensure that the treatment plan can be implemented in the clinic through interaction with other clinical team members (e.g. therapist, dosimetrist, radiation oncologist)	This item is not applicable to this competency.
20. **Overall plan appropriateness acceptable**	The overall treatment plan is appropriate according to accepted medical dosimetry practice.	The overall treatment plan is not appropriate according to accepted medical dosimetry practice.	This item is not applicable to this competency.
21. **Overall plan quality acceptable**	Quality of the treatment plan meets or surpasses clinical practice standards acceptable as specified by RTOG protocol, clinical protocol, and/or physician prescription	Quality of the treatment plan does not meet clinical practice standards acceptable as specified by RTOG protocol, clinical protocol, and/or physician prescription	This item is not applicable to this competency.
22. **Student obtained plan approval from a certified medical dosimetrist or other credentialed practitioner as appropriate prior to treatment**	Student actively interacted with a CMD or other appropriately credentialed practitioner as appropriate regarding the treatment plan to gain approval prior to implementation.	Student failed to interact with a CMD or other credentialed practitioner as appropriate regarding the treatment plan to gain approval prior to implementation	This item is not applicable to this competency.
23. **Student obtained plan approval from physician**	Student actively interacted with the physician regarding the treatment plan to gain approval.	Student failed to interact with the physician regarding the treatment plan to gain approval	This item is not applicable to this competency.
24. **Planning time reasonable**	The amount of time the student utilized to successfully complete a treatment plan is reasonable relative to plan complexity (e.g. 2-6 hours total planning time for simple or intermediate plans, 8 or more hours for complex plans)	The amount of time the student utilized to successfully complete a treatment plan is unreasonable relative to plan complexity	This item is not applicable to this competency.
25. **Able to answer questions relevant to planning of case (cognitive evaluation)***	Student confidently and clearly presented answers to evaluator questions relevant to the clinical case.	Student failed to confidently and clearly present answers to evaluator questions relevant to the clinical case.	This item is not applicable to this competency.
26. **Interact with others in a mentoring/mentee role as appropriate (affective evaluation)**	Student behavior exemplified characteristics of a mentor and/or mentee as appropriate. These behaviors include active eagerness to learn and actively assisting others.	Student behavior failed to exemplify characteristics of a mentor and/or mentee. These behaviors include lack of eagerness to learn and lack of desire to assist others.	This item is not applicable to this competency.
27. **Courteous and professional behavior displayed (affective evaluation)**	Student behaved in a courteous and professional manner during all interpersonal interactions according to guidelines for the organization in which the student is assigned. ***Note: The student must be informed regarding professional behavior guidelines for the**	Student failed to behave in a courteous and professional manner during all interpersonal interactions according to guidelines for the organization in which the student is assigned.	This item is not applicable to this competency.

	organization prior to completing competencies		
28 **Virtual interaction/ communication with others in a clinical capacity as appropriate (affective evaluation)**	Student virtual interactions were appropriate to successfully complete all aspects of the treatment plan in a virtual environment.	Student behavior failed to exemplify virtual interactions were appropriate to successfully complete all aspects of the treatment plan in a virtual environment.	This item is not applicable to this competency.

CLINICAL ORIENTATION ACKNOWLEDGEMENT FORM

I,_____, certify that I received and reviewed the safety and health policies and procedures established by my clinical site.

This training included HIPAA training, fire safety, emergency preparedness, medical emergencies, hazards, radiation safety, MRI safety, and standard precautions. My Clinical Preceptor has received the orientation material and disseminated it to the clinical staff.

I further understand that any patient contact procedure requires the direct supervision of a qualified/certified professional.

_____ _____

Student Signature Date

_____ _____

Preceptor Signature Date

Form updated April 20, 2022