

New Course Request

Indiana University

IUPUI

Campus

Check Appropriate Boxes:

Undergraduate credit

Graduate credit

Professional credit

1. School/Division School of Medicine 2. Academic Subject Code RAON

3. Course Number D 704 (must be cleared with University Enrollment Services) 4. Instructor DesRosiers, C, PhD &

5. Course Title Clinical Practicum IV - Assessment Challenges in Medical Dosimetry Ewing, M, CMD

Recommended Abbreviation (Optional) Clin Prac IV - Assess Challenges
(Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Summer Session I 2011

7. Credit Hours: Fixed at 3 or Variable from _____ to _____

8. Is this course to be graded S-F (only)? Yes No

9. Is variable title approval being requested? Yes No

10. Course description (not to exceed 50 words) for Bulletin publication:
This course is intended to provide the student with opportunity to assess their skills in treatment planning and to prepare them for performing these tasks as an employee rather than as a student. They will successfully perform challenges in 2D planning, 3D planning, IMRT planning and SBRT planning, including all aspects of preparing the plan for implementation.

11. Lecture Contact Hours: Fixed at _____ or Variable from _____ to _____

12. Non-Lecture Contact Hours: Fixed at 168 or Variable from _____ to _____

13. Estimated enrollment: 2-5 of which 100% percent are expected to be graduate students.

14. Frequency of scheduling: once/year Will this course be required for majors? yes, certificate program

15. Justification for new course: establishment of new certificate program in medical dosimetry

16. Are the necessary reading materials currently available in the appropriate library? yes

17. Please append a complete outline of the proposed course, and indicate instructor (if known), textbooks, and other materials.

18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.

19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:

Approved by:

[Signature] Blumstein, MD Date 7/16/09
Department Chairman/Division Director

[Signature] Date 7/21/09
Dean

Date _____
Dean of Graduate School (when required)

Date _____
Chancellor/Vice-President

Date _____
University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

NEW COURSE REQUEST

I. Title: Clinical Practicum IV – Assessment Challenges in Medical Dosimetry
Course # RAON-D704
Course Director: Colleen DesRosiers, Ph.D.
Course Coordinator/Instructor: Marvene M. Ewing, B.S, CMD
Prerequisites: Clinical Practicum III – Advanced Topics in Medical Dosimetry

Suggested Course Abbreviation: Clin Prac IV–Assess Challenges

Summer Session I 3 credit hours 24 days (7 hrs each) = 168 hrs = 10,080 minutes

II. Course Description and Rationale

This course is intended to provide the student with opportunity to assess their skills in treatment planning and to prepare them for performing these tasks as an employee rather than a student. They will successfully perform assigned challenges in 2D planning, 3D planning, IMRT planning and SBRT planning, including all aspects of preparing the plan for implementation.

This rotation will present the student with opportunities to “practice” what they have learned in a clinical situation. Treatment planning tasks to be completed will be assigned by the clinical instructor and must be completed successfully in an appropriate time frame. Some of these plans may be very complex and may require being worked on in several sessions, as is often the case in the “real world”. Rotations to clinical sites will be assigned as needed.

III. Educational Objectives

Upon completion of this rotation the student will be able to:

1. The student will be able to produce a complex 2D treatment plan. (15% total grade)

Assessment: Clinical competency performed under the direct supervision of a medical dosimetrist or physicist. This competency will be a comprehensive test of the students ability to perform the treatment plan from start to finish without assistance or advice from the observing dosimetrist or physicist. The competency will test the student’s ability to:

- Use the simulation data to construct the patient model
- Identify and contour each relevant structure
- Place beams
- Work with physician to create blocked fields
- Verify MU calculations on each field
- Communicate with physician for advise/approval/replanning requirements
- Set up plan in electronic record for treatment
- Communicate to physicist that plan is ready for verification
- Address any issues identified as requiring correction

2. The student will be able to produce a complex 3D treatment plan. (15% total grade)

Assessment: Clinical competency performed under the direct supervision of a medical dosimetrist or physicist. This competency will be a comprehensive test of the students ability to perform the treatment plan from start to finish without assistance or advice from the observing dosimetrist or physicist. The competency will test the student's ability to:

- Use the simulation data to construct the patient model
- Identify and contour each relevant structure
- Communicate with physician for patient specific requirements
- Place beams with blocking
- Verify MU calculations on each field
- Communicate with physician for advise/approval/replanning requirements
- Set up plan in electronic record for treatment
- Communicate to physicist that plan is ready for verification
- Address any issues identified as requiring correction

3. The student will be able to produce a complex IMRT treatment plan. (15% total grade)

Assessment: Clinical competency performed under the direct supervision of a medical dosimetrist or physicist. This competency will be a comprehensive test of the students ability to perform the treatment plan from start to finish without assistance or advice from the observing dosimetrist or physicist. The competency will test the student's ability to:

- Use the simulation data to construct the patient model
- Identify and contour each relevant structure
- Place beams
- Communicate with physician for dosimetric constraints, and other patient specific details required for planning
- Optimize independently
- Verify MU calculations on each field
- Communicate with physician for advise/approval/replanning requirements
- Set up plan in electronic record for treatment
- Communicate to physicist that plan is ready for verification
- Address any issues identified as requiring correction

4. The student will be able to produce a complex SBRT treatment plan. (15% total grade)

Assessment: Clinical competency performed under the direct supervision of a medical dosimetrist or physicist. This competency will be a comprehensive test of the students ability to perform the treatment plan from start to finish without assistance or advice from the observing dosimetrist or physicist. The competency will test the student's ability to:

- Use pathway for SBRT planning
- Use the simulation data to construct the patient model
- Communicate with physician for patient specific requirements
- Identify and contour each relevant structure
- Place beams with blocking
- Verify MU calculations on each field
- Communicate with physician for advise/approval/replanning requirements
- Set up plan in electronic record for treatment

- Communicate to physicist that plan is ready for verification
- Address any issues identified as requiring correction

5. The student will be able to produce a complex proton treatment plan. (15% total grade)

Assessment: Clinical competency performed under the direct supervision of a medical dosimetrist or physicist. This competency will be a comprehensive test of the student's ability to perform the treatment plan from start to finish without assistance or advice from the observing dosimetrist or physicist. The competency will test the student's ability to:

- Use the simulation data to construct the patient model
- Identify and contour each relevant structure
- Communicate with physician for patient specific requirements
- Place treatment fields
- Evaluate and optimize the treatment plan
- Communicate with physician for advise/approval/replanning requirements
- Prepare plan for treatment execution

6. The student will be able to produce a complex brachytherapy plan. (15% total grade)

Assessment: Clinical competency performed under the direct supervision of a medical physicist. This competency will be a comprehensive test of the student's ability to perform the treatment plan from start to finish without assistance or advice from the observing physicist. The competency will test the student's ability to:

- Use the simulation data to construct the patient model
- Identify relevant reference and constraint points
- Communicate with physician for patient specific requirements
- Identify and optimize source location
- Calculate implant duration
- Verify accuracy of plan using independent spreadsheet or calculation program
- Communicate with physician for advise/approval/replanning requirements

7. Exhibit their competence at completing assigned dosimetry tasks as asked. (5% total grade)

Assessment: The student will be asked to maintain a schedule and will be expected to follow those patients assigned from start-finish. The student's ability to perform this task successfully will be evaluated at the end of the grading period by a medical dosimetrist.

8. Work independently to complete dosimetry tasks. (5% total grade)

Assessment: The student will be given an electronic "task pad". Senior dosimetrists will assign and monitor tasks to verify completion. Results of the student's progress will be recorded weekly.

IV. Course Content – Syllabus

The student will be assigned clinical locations depending on the challenges they have been assigned. It will be necessary for the student to maintain some flexibility in scheduling, although every effort will be made by the clinical coordinator to communicate with the student as early as possible so that personal schedules can also be maintained.

1. 2D Planning Challenge

Planning challenge will be chosen from a 2D plan case as determined by the clinical coordinator. Every effort will be made to have this challenge be part of the normal clinical setting.

2. 3D Planning Challenge

A complex 3-D plan will be chosen from the list of 3D planning sites in Clinical Practicum II by the clinical coordinator.

3. IMRT Planning Challenge

The student will complete one IMRT plan from the acquisition of images, completing any registrations, fusions requested, the contouring and planning to the implementation of the plan in the electronic medical record. All work will be checked by a CMD or clinical medical physicist. For this challenge the student will also be required to perform the IMRT quality assurance procedures.

4. SBRT Planning Challenge

The student will complete an SBRT plan from the acquisition of images, completing any registrations, fusions as requested, the contouring and planning to the implementation of the plan in the electronic medical record. All work will be checked by a CMD or clinical medical physicist. For this challenge the student will also be required to participate in the setup of the patient, including the set up with cone beam CT.

5. Proton Planning Challenge

The student will complete a proton therapy plan as assigned.

6. Brachytherapy Planning Challenge

The student will complete a brachytherapy plan as assigned.

* Students will be required to attend departmental conferences as they are scheduled. A written report will be submitted for each conference attended, however no additional credit will be assigned for attendance at conferences.

V. Required and Recommended Texts

No texts required.

VI. Evaluation and Grading

Successful completion of all challenges assigned will be evaluated using a competency test. Each will be graded by a clinical instructor and weighted towards final grade according to the Educational Objectives section. Completion of certificate will not be awarded without successfully completing all challenges assigned.

VII.

Grading Scale	Percentage
Exceeds expectations	88-100%
Meets requirements	75-87.99%
Failing	<75%

Cheating and Plagiarism:

Students are instructed to make themselves aware of University regulations concerning plagiarism, the maintenance of academic honesty and the

definitions of unacceptable behavior and cheating. Academic misconduct of any sort will not be tolerated and will be dealt with as outlined in the *IU/PUI Code of Student Rights, Responsibilities, and Conduct*, which can be viewed at:

<http://www.iupui.edu/code/>

Examples of misconduct include but are not limited to:

1. Cheating

A student must not use or attempt to use unauthorized assistance, materials, information, or study aids in any academic exercise.

2. Fabrication

A student must not falsify or invent any information or data in an academic exercise including, but not limited to, records or reports, laboratory results, and citations to the sources of information.

3. Plagiarism

A student must not adopt or reproduce ideas, words, or statements of another person without appropriate acknowledgment. A student must give credit to the originality of others and acknowledge an indebtedness whenever he or she does any of the following:

- a. Quotes another person's actual words, either oral or written.
- b. Paraphrases another person's words, either oral or written.
- c. Uses another person's idea, opinion, or theory, or
- d. Borrows facts, statistics, or other illustrative material, unless the information is common knowledge.

4. Interference

- a. A student must not steal, change, destroy, or impede another student's work.
- b. A student must not give or offer a bribe, promise favors, or make threats with the intention of affecting a grade or the evaluation of academic performance.

Potential consequences for academic misconduct:

If the instructor has information that one of his/her students committed an act of academic misconduct, the faculty member will hold an informal conference with the student. The conference will be prompt and private. If the faculty member concludes that the student is responsible for the misconduct, then the faculty member will impose an appropriate academic sanction (i.e., lower or failing grade on the assignment, assessing a lower or failing grade for the course).

VIII. Americans with Disabilities Act:

If you need any special accommodations due to a disability, please contact Adaptive Educational Services at (317)-274-3241. The office is located in CA 001E.