

MRSC1201: Basic Radiation Therapy Methods IB

Callaghan

Semester 2 - 2023



THE UNIVERSITY OF
NEWCASTLE
AUSTRALIA

OVERVIEW

Course Description

This course introduces the foundation clinical concepts, technologies and science that underpin Radiation Therapy. This course will review basic approaches to radiation therapy simulation, planning, and treatment, and provide a platform for knowledge and skill building in subsequent radiation therapy courses. This course is mandatory and must be passed to progress in the Bachelor of Medical Radiation Science (Radiation Therapy).

Requisites

Student must be concurrently enrolled in MRSC1220, have successfully completed MRSC1010 & HUBS1105 and be active in the BMRS (Radiation Therapy) [11018] or the BMRS (Honours) (Radiation Therapy) [40010] program.

Assumed Knowledge Contact Hours

HUBS1105, HUBS1401, MRSC1010, HLSC1000

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Laboratory

Face to Face on Campus

2 hour(s) per Week for 8 Weeks

Lecture

Face to Face on Campus & Online

2 hour(s) per Week for 10 Weeks

Tutorial

Face to Face on Campus

2 hour(s) per Week for 4 Weeks

Workshop

Face to Face on Campus

4 hour(s) per Term Full Term

Unit Weighting Workload

10

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10-unit course.

COURSE OUTLINE

www.newcastle.edu.au

CRICOS Provider 00109J

CONTACTS

Course Coordinator

Callaghan

Ms Laura Feighan

Laura.Feighan@newcastle.edu.au

Consultation: please contact via email to arrange an appointment.

Teaching Staff

Other teaching staff will be advised on the course Canvas site.

School Office

School of Health Sciences

Room 302, ICT Building

Callaghan

SchoolHealthSciences@newcastle.edu.au

+61 2 4921 7053

SYLLABUS

Course Content

1. Role, function, and scope of Radiation Therapy practice and the oncology team members within cancer care
2. Conventional radiation therapy clinical methods in simulation, planning and treatment
3. Conventional radiation therapy technologies in simulation, planning and treatment
4. Non-isocentric and isocentric planning and treatment
5. Overview of conformal technologies
6. Describing cancer, causes of cancer, diagnostic methods, cancer staging and cancer treatment methods
7. Psychology in oncology, quality of life, mainstream cancer care, and complimentary health care

Course Learning Outcomes

On successful completion of this course, students will be able to:

1. Describe the role of radiation therapy simulation, planning and treatment
2. Identify and describe the equipment used in radiation therapy in conventional and conformal RT
3. Describe and apply conventional approaches to radiation therapy including simulation data acquisition; plan design, plan evaluation and critique; dose calculation and treatment sheet development; treatment implementation and set-up and immobilisation of patients for treatment
4. Identify key radiological anatomy features in radiographs typically used in radiation therapy
5. Develop clinical decision making regarding planning, treatment and patient care, including quality assurance protocols
6. Develop communication skills
7. Recognise and describe the hallmarks of cancer
8. Describe the natural history and staging of malignant disease
9. Describe approaches to cancer diagnosis and treatment
10. Analyse the specialist roles of practitioners in cancer care, and the role of the multi-disciplinary health care team in oncology

Course Materials

As per Canvas site

Recommended Text (you are NOT expected to purchase these, only access these for

learning purposes, via the Library):

- Walter and Millers Textbook of Radiotherapy, Bomford and Kunkler, 2012.
- American Cancer Society Clinical Oncology, 2001.
- The Physics of Radiation Therapy. Faiz M Khan, 4th Edition.

COMPULSORY REQUIREMENTS

To pass this course, each student must complete ALL of the following compulsory requirements:

Contact Hour Requirements: Attend 70% of Tutorials and Laboratories

Course Assessment Requirements:

Assessment 1 - Written Assessment

Attempt / Submission Requirement - Students must attempt/submit this assessment item to pass the course.

Assessment 2 – Skills Based Exam – during Semester

Attempt / Submission Requirement - Students must attempt/submit this assessment item to pass the course.

Assessment 3 – Formal Exam – formal exam period

Attempt / Submission Requirement - Students must attempt/submit this assessment and pass this assessment item to pass the course. Students must gain a pass mark of 50% or above for the formal examination.

ASSESSMENTS

This course has 3 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	In term test*	Tuesday October 10 th , 2023 (during tutorial times)	Individual	30%	4
2	Skills Based Assessment (SBA) Written Assignment – 30%*	Thursday October 26 th , 2023 – 5pm	Individual	30%	1, 2, 3, 5, 6
3	Formal Examination	During formal exam period	Individual	40%	1, 2, 3, 5, 7, 8, 9, 10

* This assessment has a compulsory requirement.

Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 – Anatomy Exam - Online 30%

Assessment Type	In Term Test
Description	As per instructions on Canvas
Weighting	30% This is a summative assessment and will contribute to your final grade.
Compulsory Requirements	Attempt / Submission Requirement - Students must attempt/submit this assessment item to pass the course.
Due Date	Tuesday October 10 th , 2023 (during tutorial times)
Submission Method	To be completed in class via Canvas online quiz
Assessment Criteria	As per Canvas
Return Method	Online
Feedback Provided	Online

Opportunity to Reattempt Opportunity for remediation may be permitted only if accompanied by the appropriate Adverse Circumstance documentation.

Assessment 2 - Written Assignment 30%

Assessment Type Written Assignment
Description As per Canvas instructions
Weighting 30% - This is a summative assessment and will contribute to your final grade.
Compulsory Pass Requirement - Students must pass this assessment item to pass the course.
Requirements Attempt / Submission Requirement - Students must attempt/submit this assessment item to pass the course.
Due Date Thursday October 26th, 2023 – 5pm.
Submission Method Online via Canvas
Assessment Criteria As per Rubric on Canvas
Return Method Online via Canvas
Feedback Provided Online via Canvas
Opportunity to Reattempt Opportunity for remediation may be permitted only if accompanied by the appropriate Adverse Circumstance documentation.

Assessment 3 - Exam - Formal 40%

Assessment Type Formal exam in Formal Period
Description Formal exam in Formal Period
Weighting 40% - This is a summative assessment and will contribute to your final grade.
Compulsory Attempt / Submission Requirement - Students must attempt/submit this assessment item to pass the course and gain 50% or more to pass the course.
Requirements Attempt / Submission Requirement - Students must attempt/submit this assessment item to pass the course and gain 50% or more to pass the course.
Due Date In Formal Exam Period (November 2023)
Submission Method Formal Exam
Assessment Criteria Pass mark (>50%)
Return Method Not returned
Feedback Provided Not returned
Opportunity to Reattempt Opportunity for remediation may be permitted only if accompanied by the appropriate Adverse Circumstance documentation.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will

			be zero. A fail grade may also be awarded following disciplinary action.
	*Skills are those identified for the purposes of assessment task(s).		
Communication Methods	Communication methods used in this course include Canvas announcements (primary method) and email.		
Course Evaluation	Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.		
Oral Interviews (Vivas)	As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination (viva) Procedure . In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule .		
Academic Misconduct	All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35 .		
Adverse Circumstances	<p>The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:</p> <ol style="list-style-type: none"> 1. the assessment item is a major assessment item; or 2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system; 3. you are requesting a change of placement; or 4. the course has a compulsory attendance requirement. <p>Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at: https://policies.newcastle.edu.au/document/view-current.php?id=236</p>		
Important Policy Information	The 'HELP for Students' tab in UoNline contains important information that all students should be familiar with, including various systems, policies, and procedures.		

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified, and an amended course outline will be provided in the same manner as the original.

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