MEDI13007 *Fundamentals of Radiographic Technique*
Term 1 - 2020

Profile information current as at 26/04/2024 06:46 am

Corrections

Unit Profile Correction added on 30-03-20

The end of term examination has now been changed to an alternate form of assessment. Please see your Moodle site for details of the assessment.
The in-class test has been changed to an alternate form of assessment. Please see your Moodle site for more details of the assessment.
The OSCE has been changed to an alternate form of assessment. Please see your Moodle site for more details of the assessment.

General Information

Overview

In this unit you will apply your foundation knowledge of radiation science and human anatomy to the study of radiographic imaging. You will learn the principles of image geometry and image formation that underpin radiographic technique and apply this technique to the acquisition of standard projection radiographs of the musculoskeletal system. You will learn to position the beam, patient and image receptor to produce standard radiographic appearances. You will be able to perform basic critique of the images and discuss the anatomical structures demonstrated on the images.

Details

Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Prerequisites:MEDI12008 CHIR12004 CHIR12008
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2020

- Brisbane
- Mackay
- Sydney

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **In-class Test(s)**
Weighting: 15%
2. **On-campus Activity**
Weighting: Pass/Fail
3. **Objective Structured Clinical Examinations (OSCEs)**
Weighting: 25%
4. **Examination**
Weighting: 60%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Discuss the fundamental concepts of radiographic technique
2. Apply the fundamental concepts of radiographic technique to the production of projection radiographs
3. Perform set-ups of imaging equipment and patients to produce skeletal radiographs safely and effectively at an advanced beginner level
4. Discuss the radiographic appearances of anatomical structures on standard skeletal projection radiographs
5. Critique radiographic images at an advanced beginner level.

This unit supports students in the attainment of the following Competency Standards of the Council on Chiropractic Education Australasia:
1.1 Complies with legal and ethical requirements
Adheres to relevant legislation, common law, codes, standards and other policy regulating chiropractic conduct and practice
1.4 Demonstrates professional integrity
Applies principles of risk management and quality improvement to practice
3.3 Obtains the results of clinical, laboratory and other diagnostic procedures necessary to inform care
Refers for or conducts imaging where clinically indicated
3.5 Critically analyses information available to generate a clinical impression
Demonstrates knowledge of diagnostic imaging techniques and procedures, including indications and limitations of available imaging modalities

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level ◦ Introductory Level • Intermediate Level • Graduate Level ◦ Professional Level ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - In-class Test(s) - 15%	•				
2 - On-campus Activity - 0%			•		
3 - Objective Structured Clinical Examinations (OSCEs) - 25%		•	•	•	•
4 - Examination - 60%	•	•		•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Communication	•	•	•	•	•
2 - Problem Solving		•		•	•
3 - Critical Thinking					

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
4 - Information Literacy					
5 - Team Work					
6 - Information Technology Competence		•	•		
7 - Cross Cultural Competence			•		
8 - Ethical practice			•		
9 - Social Innovation					
10 - Aboriginal and Torres Strait Islander Cultures					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - In-class Test(s) - 15%	•									
2 - On-campus Activity - 0%						•	•	•		
3 - Objective Structured Clinical Examinations (OSCEs) - 25%	•	•				•		•		
4 - Examination - 60%	•	•								

Textbooks and Resources

Textbooks

MEDI13007

Prescribed

Yochum and Rowe's Essentials of Skeletal Radiology
Edition: 3rd (2004)
Authors: Yochum T, Rowe L (Ed)
Lippincot, Williams and Wilkins
Philadelphia , Pa , United States of America
ISBN: 9780781739467
Binding: Hardcover

Additional Textbook Information
Copies are available for purchase at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing styles below:

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

For further information, see the Assessment Tasks.

Teaching Contacts

Karen Finlay Unit Coordinator
k.finlay@cqu.edu.au

Schedule

Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to radiographic imaging	Readings presented on Moodle site	

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Beam geometry	Readings presented on Moodle site	

Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Principles of image critique	Readings presented on Moodle site	

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiography workflow Introduction to radiographic imaging of the spine	Readings presented on Moodle site	**In-Class Test** Due: Week 4 Monday (30 Mar 2020) 2:00 pm AEST

Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the cervical spine	Chapter 1 pages 22 - 39 & pages 48,49	

Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the lumbar spine	Chapter 1 pages 50 - 79	

Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the thoracic spine, chest and ribs	Chapter 1 pages 40 - 47	

Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the pelvis and hips	Chapeter 1 pages 80 - 81 & 84 - 89	

Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the shoulder girdle	Chapeter 1 pages 134 - 145	

Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the hand, wrist and elbow	Chapter 1 pages 146 - 171	

Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Radiographic imaging of the foot, ankle and knee	Chapeter 1 pages 90 - 129	

Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
Consolidation		**Skills lab performance and participation** Due: Week 12 Friday (5 June 2020) 5:00 pm AEST

Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 15 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The unit coordinator for this unit is Karen Finlay
During the term I may be off campus or teaching another unit. For this reason, the preferred method of initial contact is via email or the Q&A forum on the Moodle site.

My email address is k.finlay@cqu.edu.au and my office telephone number is 07 49232647.

All lectures for this unit are recorded and must be viewed before attending any scheduled class or lab activity. On-line quizzes are formative, designed to help you to assess your understanding of the weekly content. Quizzes should be completed before attending any scheduled class or lab activity.

It is vital to maintain engagement with the unit content and to budget your time effectively. Completing the pre-reading, watching lecture presentations, taking notes and completing the formative quizzes should take approximately five (5) hours per week. Expect to spend approximately four (4) hours per week on tutorials and lab activities. Preparation for lab activities and tutorials, revision and completion of the in-class test and OSCE must be factored into your time management plan. On average, expect to spend approximately 12.5 hours per week studying this unit.

Assessment Tasks

1 In-Class Test

Assessment Type
In-class Test(s)

Task Description
It is important that you understand the underlying principles of radiographic imaging to enable you to image patients safely and effectively. The in-class test will assess your understanding prior to you applying the principles in skills labs.

You will sit an in-class test which will assess your knowledge and understanding of concepts covered in weeks 1 to 3 of term. The test will have a range of question formats, including true/false with explanations and longer form answers. Question tasks will be similar to the type that you will practice in weekly tutorials and formative quizzes. Diagrams may be used to explain concepts. Some answers may require diagrams to be labelled or to be drawn and labelled. Calculations may be required.

This is a closed-book assessment and no notes, texts or electronic devices are allowed into the class during this assessment task. You will have a five minute perusal time prior to the allotted writing time. The test will last for one (1) hour. You will submit your test paper and rough paper at the end of the test period.

This test must be written at the timetabled date and time. There is no opportunity to apply a late penalty. If you arrive late, you may enter the test room up to 30 minutes after the start of the test, however, you will still be required to submit your test at the standard test end time. You will not be allowed entry more than 30 minutes after the test starts. In the absence of an approved extension, there will be no opportunity for you to complete this assessment at a later time, and you will receive a mark of zero for the assessment.

Assessment Due Date
Week 4 Monday (30 Mar 2020) 2:00 pm AEST

Return Date to Students
Week 6 Monday (20 Apr 2020)

Weighting
15%

Assessment Criteria

Your in-class test will be marked on the following criteria:

- correct use of terminology
- factual correctness of presented material
- relevance of stated content to the question asked
- application of foundation concepts to the question asked

- clarity, thoroughness and completeness of explanations

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Offline

Submission Instructions
Closed book. No notes or electronic devices to be used during the test.

Learning Outcomes Assessed

- Discuss the fundamental concepts of radiographic technique

Graduate Attributes

- Communication

2 Skills lab performance and participation

Assessment Type
On-campus Activity

Task Description
The regular skills labs will give you the opportunity to practice positioning a person for the projections taught in this unit, as well as learning to manipulate the imaging equipment safely and effectively. It is important to attend these labs to develop your imaging skills and prepare for your assessment in the objective structured clinical exam (OSCE).
Professional behaviour is a vital component of competency as a health care professional. As such you will be expected to demonstrate this consistently whilst working in the simulated clinical environment of the imaging labs.
This task requires you to attend scheduled skills labs and meet minimum levels of engagment, preparedness and professionalism.
The lab performance form is available on the unit Moodle site. You must bring it with you to each of your scheduled supervised practical lab classes. This form details the behaviours required. Your lab supervisor will assess your performance relative to the stated standards. Your lab supervisor will complete and sign the form every session.
Once completed this form must be uploaded via the unit Moodle site for review by the unit coordinator by Week 12 Friday.
You will be provided with a lab performance form via the unit Moodle site, which you must have signed by the lab tutor at the end of each attended skills lab. This must be uploaded via the unit Moodle site by Friday of week 12. You will be marked as absent if you do not attend scheduled labs without approval and documentation for the absence, or if you attend a scheduled lab but are more than fifteen (15) minutes late. If you are unable to attend a scheduled lab you must seek approval for your absence and supply verifiable documentation to justify your absence. Work committments or other expected situations are not justifiable reasons for absence. No 'make-up' labs will be offered for an absence, but if an absence is approved, you will not be penalised for that absence.
As per the Assessment Policy and Procedure (Higher Education): "Students who fail a single assessment in a pass/fail unit or a pass/fail component of a graded unit will be deemed to have failed that unit, unless the unit profile includes provision for students to re-attempt a failed assessment task and the student passes the re-attempted assessment".
This assessment item is based on attendance and as such there is no possibility of re-attempting the task. Therefore, should you not meet the minimum requirements as detailed for this task, you will recieve a fail grade for the unit.

Assessment Due Date
Week 12 Friday (5 June 2020) 5:00 pm AEST

Return Date to Students
Review/Exam Week Friday (12 June 2020)

Weighting
Pass/Fail

Minimum mark or grade
Pass

Assessment Criteria
You will receive 5 points per lab class if all assessment criteria are met. One point will be deducted for each behaviour not demonstrated to the required standard during the lab session. If you ar absent from a lab class without justification (as detailed in the Task Description), all five points will be deducted. The total number of available points for the term will be calculated on a pro-rata basis where scheduled lab sessions could not be held due to unforeseen circumstances. Detailed assessment criteria and a marking rubric are available on the unit Moodle site.

- Attendance
- Preparedness for the lab session
- Safe and effective use of equipment
- Patient care
- Participation and teamwork

To obtain a grade of 'Pass' for this assessment task you must:

- Achieve a mark of 80% or above on the criteria on the lab performance form.
- Submit the form into teh Moodle assessment task by the due date and time.

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Online

Submission Instructions
Submit via Moodle

Learning Outcomes Assessed

- Perform set-ups of imaging equipment and patients to produce skeletal radiographs safely and effectively at an advanced beginner level

Graduate Attributes

- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

3 OSCE

Assessment Type
Objective Structured Clinical Examinations (OSCEs)

Task Description
Radiographic imaging requires application of both cognitive and psycho-motor skills. The objective structured clinical examination (OSCE) will assess these domains. The OSCE is in two (2) parts, one part will take place in the simulation lab and one in a computer room.
Part 1:
In the simulation lab, you will be presented with an imaging referral, which will require a projection of the spine and of an extremity. You must position a person and the x-ray tube correctly for the given projections. The projections to be conducted will be chosen randomly from all of the projections practiced during the term. You will position a peer as your patient and act as a patient for your peer. You must select correct technical factors for each projection.

Please note:

- This is a timed assessment. You will have 10 minutes to complete the practical tasks. If you have not completed the tasks within 10 minutes, the assessment will be stopped and you will be marked based on your performance to that point.
- This assessment task will be recorded using a video camera to enable moderation.
- You must complete the tasks without reference to any guidance resourses such as notes, texts or electronic devices.
- If you do not achieve the minimum score you will be given one (1) additional opportunity to be re-assessed on the practical aspects of the OSCE. The re-assessment will be timed to occur within 7 calendar days of receiving the scores and feedback of the first attempt.
- A detailed marking rubric demonstrating the requirements of the practical aspects of the assessment are posted on the unit Moodle site.

Part 2:
In the computer room you will be given a series of radiographic images and/or photographs with associated questions. The questions may include naming anatomy on the image, critiquing the image in terms of technical sufficiency, suggesting ways to improve the technical sufficiency of the image, critiquing the patient position relative to a stated projection or explaining why a stated projection is completed as it is. You will have a maximum of thirty (30) minutes to complete the tasks. If you have not completed all of the questions in the time allotted, the assessment will be stopped and you will be marked on your performance to that point.

Assessment Due Date

OSCE will be scheduled via timetabling and will be held during week 13.

Return Date to Students

Weighting
25%

Minimum mark or grade
50% in each of parts 1 and 2

Assessment Criteria
You will be marked on the following criteria:

- Correct postion of the person or limb relative to the required projection
- Correct position and centring of the x-ray tube relative to the required projection
- Correct use of terminology
- Factual correctness of answers

Referencing Style

- American Psychological Association 6th Edition (APA 6th edition)
- Harvard (author-date)

Submission
Offline

Learning Outcomes Assessed

- Apply the fundamental concepts of radiographic technique to the production of projection radiographs
- Perform set-ups of imaging equipment and patients to produce skeletal radiographs safely and effectively at an advanced beginner level
- Discuss the radiographic appearances of anatomical structures on standard skeletal projection radiographs
- Critique radiographic images at an advanced beginner level.

Graduate Attributes

- Communication
- Problem Solving
- Information Technology Competence
- Ethical practice

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
60%

Length
180 minutes

Minimum mark or grade
50%

Exam Conditions
Closed Book.

Materials
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).
Calculator - non-programmable, no text retrieval, silent only

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem