CHIR8401

Diagnostic Imaging 1

Session 1, In person-scheduled-weekday, North Ryde 2022

Department of Chiropractic

Contents

General Information

Unit convenor and teaching staff
Lecturer, Convener
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Contact via Email
75 Talavera Rd, Level 2, Room 2232
By appointment

Credit points
10

Prerequisites
Admission to MChiroprac and (CHIR3106 or CHIR316) or (CHIR6110 or CHIR602) and (CHIR6111 or CHIR603) and (CHIR6302 or CHIR604) and (CHIR6303 or CHIR605) and (CHIR6410 or CHIR606) and (CHIR6510 or CHIR608)

Corequisites

Co-badged status

Unit description
This unit develops radiographic interpretation skills of the spine, skeleton, chest and abdomen. Routine radiographic positioning of the spine and extremities is also taught. This unit forms part of a suite of units in radiographic science that leads to eligibility for licensure to own and operate x-ray equipment.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

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

ULO1: Explain radiographic terms and distinguish possible reasons for variance in image appearance and imaging faults.
ULO2: Recognise the range of normal radiographic appearances of the spine, extremities, chest and abdomen, including anatomical and positional variances.
ULO3: Execute a thorough assessment of the radiographic image and differentiate and describe abnormal radiographic appearances.

ULO4: Implement and explain principles of radiography as applicable to chiropractic practice.

ULO5: Synthesise radiological and clinical findings to determine a differential diagnosis for a radiographic image using a categorical approach.

ULO6: Interpret normal CT and MR appearances in the spine and differentiate specific abnormalities.

General Assessment Information

TUTORIALS

Tutorial attendance and active participation is expected at a minimum of 80% tutorials in both radiographic interpretation (8 out of 10 tutorials) and radiographic positioning (7 out of 9 tutorials) to demonstrate a serious attempt at completing this unit. Attendance is a hurdle requirement. Failure to meet this requirement will result in a fail grade even if all other unit requirements are met.

RADIOGRAPHIC POSITIONING COMPETENCY ASSESSMENTS

Three radiographic competencies will be performed in weeks 5, 9, and 13. Each competency will involve demonstration of a radiographic positioning technique and will be marked as competent or not competent. As a hurdle requirement, competency must be met for all 3 techniques to pass the unit. If a serious attempt is made to perform a technique, but competency is not met, a second and final opportunity to meet competency will be available at the end of the semester. As a hurdle, failure to meet this requirement will result in a fail grade even if all other unit requirements are met.

QUIZZES

Quizzes will be available through ilearn unless otherwise indicated.

It is expected that the academic integrity policy be followed at all times. Breaches of the academic integrity policy may result in disciplinary procedures for the involved student.

All quizzes should be attempted. Quizzes will open each week on Wednesday at 8am (starting week 1) and close the following Tuesday at 2pm. Quizzes will not be reopened after they are closed for any reason. If submission is affected by technical difficulties, you can send your answers to the unit convener (hazel.jenkins@mq.edu.au) PRIOR to the closing time of the quiz for manual grading.

SLIDE EXAMS

If a slide exam is missed a supplementary exam will only be considered under the Special Consideration policy (https://students.mq.edu.au/study/my-study-program/special-consideration), applied for through www.ask.mq.edu.au within 5 days of the assessment.

If you attend and complete an examination you are declaring that you are fit to sit that assessment and Special Consideration will not normally be granted.

THEORY EXAMINATIONS

The University Examination period for Semester 1, 2022 is from June 6th to June 24th 2022.

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. You are expected to ensure that you are available until the end of the teaching semester that is the final day of the official examination period.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the Special Consideration process is available at https://students.mq.edu.au/study/my-study-program/special-consideration, applied for through www.ask.mq.edu.au within 5 days of the disruption

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the interval between the 27th June to 25th July. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. You can check the supplementary exam information page on FSE101 in iLearn (bit.ly/FSESupp) for dates, and approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination. If you are approved for Special Consideration and granted a supplementary exam, only your supplementary exam result will be counted towards your final grade.

If you attend and complete an examination you are declaring that you are fit to sit that assessment and Special Consideration will not normally be granted.

Students with a pre-existing disability/health condition or prolonged adverse circumstances may be eligible for ongoing assistance and support. Such support is governed by other policies and may be sought and coordinated through Accessibility Support.

Assessment Tasks

Name	Weighting	Hurdle	Due
Radiographic positioning competency assessments	0%	Yes	Weeks 5, 9, and 13
Slide exam 2	15%	No	Week 12, Friday 27th May 8-10am
Tutorial attendance and participation	0%	Yes	Ongoing
Weekly quizzes	20%	No	Weekly

Name	Weighting	Hurdle	Due
Final theory exam	50%	No	Examination period
Slide exam 1	15%	No	Week 6, Friday 1st April 8-10am

Radiographic positioning competency assessments

Assessment Type [1]: Clinical performance evaluation
Indicative Time on Task [2]: 1 hours
Due: **Weeks 5, 9, and 13**
Weighting: **0%**
This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

Three radiographic positioning competency assessments will be performed during the semester. This is a competency based assessment with no marks awarded. Students must demonstrate three competent techniques to pass the unit.

On successful completion you will be able to:

- Implement and explain principles of radiography as applicable to chiropractic practice.

Slide exam 2

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 1 hours
Due: **Week 12, Friday 27th May 8-10am**
Weighting: **15%**

Radiographic interpretation slide exam 2. The exam format and examination schedule will be released during the semester.

On successful completion you will be able to:

- Explain radiographic terms and distinguish possible reasons for variance in image appearance and imaging faults.
- Recognise the range of normal radiographic appearances of the spine, extremities, chest and abdomen, including anatomical and positional variances.

- Execute a thorough assessment of the radiographic image and differentiate and describe abnormal radiographic appearances.
- Synthesise radiological and clinical findings to determine a differential diagnosis for a radiographic image using a categorical approach.
- Interpret normal CT and MR appearances in the spine and differentiate specific abnormalities.

Tutorial attendance and participation

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 22 hours
Due: **Ongoing**
Weighting: **0%**
This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)

Tutorial attendance and active participation is expected at a minimum of 80% of tutorials to demonstrate a serious attempt at completing this unit.

On successful completion you will be able to:

- Explain radiographic terms and distinguish possible reasons for variance in image appearance and imaging faults.
- Recognise the range of normal radiographic appearances of the spine, extremities, chest and abdomen, including anatomical and positional variances.
- Execute a thorough assessment of the radiographic image and differentiate and describe abnormal radiographic appearances.
- Implement and explain principles of radiography as applicable to chiropractic practice.
- Synthesise radiological and clinical findings to determine a differential diagnosis for a radiographic image using a categorical approach.
- Interpret normal CT and MR appearances in the spine and differentiate specific abnormalities.

Weekly quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 6 hours
Due: **Weekly**
Weighting: **20%**

On-line quizzes to assess core content prior to tutorials each week. These will be available on ilearn. Quizzes may include multiple choice and short answer questions. All quizzes should be attempted.

On successful completion you will be able to:

- Explain radiographic terms and distinguish possible reasons for variance in image appearance and imaging faults.
- Recognise the range of normal radiographic appearances of the spine, extremities, chest and abdomen, including anatomical and positional variances.
- Execute a thorough assessment of the radiographic image and differentiate and describe abnormal radiographic appearances.
- Implement and explain principles of radiography as applicable to chiropractic practice.
- Synthesise radiological and clinical findings to determine a differential diagnosis for a radiographic image using a categorical approach.
- Interpret normal CT and MR appearances in the spine and differentiate specific abnormalities.

Final theory exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 2 hours
Due: **Examination period**
Weighting: **50%**

Exam period final theory exam

On successful completion you will be able to:

- Explain radiographic terms and distinguish possible reasons for variance in image appearance and imaging faults.
- Recognise the range of normal radiographic appearances of the spine, extremities, chest and abdomen, including anatomical and positional variances.
- Execute a thorough assessment of the radiographic image and differentiate and describe abnormal radiographic appearances.
- Implement and explain principles of radiography as applicable to chiropractic practice.
- Synthesise radiological and clinical findings to determine a differential diagnosis for a radiographic image using a categorical approach.

- Interpret normal CT and MR appearances in the spine and differentiate specific abnormalities.

Slide exam 1

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 1 hours
Due: **Week 6, Friday 1st April 8-10am**
Weighting: **15%**

Radiographic interpretation slide exam 1. The exam format and examination schedule will be released during the semester.

On successful completion you will be able to:

- Explain radiographic terms and distinguish possible reasons for variance in image appearance and imaging faults.
- Recognise the range of normal radiographic appearances of the spine, extremities, chest and abdomen, including anatomical and positional variances.
- Execute a thorough assessment of the radiographic image and differentiate and describe abnormal radiographic appearances.
- Synthesise radiological and clinical findings to determine a differential diagnosis for a radiographic image using a categorical approach.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Assumed knowledge:

To successfully undertake this unit it is assumed that you have a good understanding of radiographic physics and normal radiographic anatomy as covered in HLTH3140 and CHIR3610 or CHIR6410. Please revise this material as needed.

Online Modules:

Weekly online lecture modules will be available on ilearn, starting week1. Separate modules will be available each week for radiographic interpretation and radiographic positioning. The theory presented in the online modules will be needed for the following weekly quizzes and tutorials. Please ensure that you stay up to date with all online material. The online lecture time (Tuesday 8-10am) has been provided for you to complete this material.

Lecture:

Lectures will be held starting week 1 on Fridays, 8-10am in 14 SCO Ave T2. It is strongly encouraged that you attend these lectures live wherever possible. The lecture is a discussion of the material presented in the online modules, and engagement in the live discussion will really help your learning in this unit. The recording will be available on ECHO after the lecture time.

Tutorials:

SGTA_1 Radiographic Interpretation Skills (x1): 1 hour tutorial on Tuesday afternoon, starting week 2, 11 Wally's Walk 350 (RADLAB). This tutorial is your opportunity to practice your developing radiographic interpretation skills. Each tutorial will be based on the online modules and discussion lecture from the previous week. Tutors will be available to answer questions during the tutorial time. A recording of the tutorial material will be released after each tutorial on the Wednesday.

SGTA_2 Radiographic Positioning Skills (x1): 1 hour tutorial on Tuesday afternoon, starting week 2, 11 Wally's Walk 340. This tutorial will build on the material covered in the online modules. Time will be split between workbook questions and practicing on dummy x-ray machines. Tutors will be available to answer your questions.

Technology:

iLearn:

All lecture, tutorial, online module, and on-going assessment material will be available on ilearn. Due to the large number of pictures within these presentations download times can be slow

Resources:

Recommended Text:

Yochum, T & Rowe, L; 2005; Essentials of Skeletal Radiology Vol I & II (3rd Ed); Lippincott, William & Wilkins; Baltimore

Required Manuals/Notes:

Radiographic interpretation online module notes (available electronically on ilearn)

Radiographic positioning online module notes (available electronically on ilearn)

Radiographic interpretation lecture notes (available electronically on ilearn)

Radiographic interpretation tutorial notes (available electronically on ilearn)

Radiographic Positioning Manual, 2022 (available electronically on ilearn)

Radiographic Library:

The radiographic library (RADLAB) houses over 1000 xray and digital access will be provided through ilearn. It is exepcted that the RADLAB is utilised for your revision for 1-2hrs per week.

Internet:

Google images is a great resource for sourcing specific xrays. There are many websites available with extensive xray libraries and this is also a valuable revision tool. A couple of useful websites are:

Radiopaedia: https://radiopaedia.org/

Learning Radiology: http://www.learningradiology.com/

Unit Schedule

For a detailed weekly schedule, please see ilearn

Radiographic Interpretation Topics:

Image assessment and categorisation

Alignment anomalies

Congenital anomalies

Trauma

Arthritis

Infection

Tumours

Endocrine, Nutrition, and Metabolic disorders

Vascular and Growth disorders

Spinal CT and MRI assessment and normal anatomy

Radiographic Positioning Topics:

Image acquisition

Radiographic image critique

Routine imaging of the spine

Routine imaging of the lower extremity

Routine imaging of the upper extremity

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policie

s.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

Students seeking more policy resources can visit Student Policies (https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Changes since First Published

Date	Description
15/02/2022	Unit staff deleted