



# CHIR20005 *Diagnostic Imaging*

## Term 2 - 2023

Profile information current as at 27/04/2024 07:05 pm

All details in this unit profile for CHIR20005 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## General Information

### Overview

In this unit, you will learn to identify, interpret and understand skeletal change as represented on conventional radiographs as well as advanced imaging such as computed tomography (CT) and magnetic resonance imaging (MRI). These differential diagnostic skills are fundamental for diagnostic competence in chiropractic practice.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Co-requisite: CHIR20003 Clinical Practice 2

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 2 - 2023

- Brisbane
- Mackay

### 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 Postgraduate 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. **Written Assessment**

Weighting: 40%

#### 2. **Practical Assessment**

Weighting: 30%

#### 3. **Oral Examination**

Weighting: 30%

#### 4. **Case Study**

Weighting: Pass/Fail

### 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](#).

## Previous Student Feedback

### Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Verbal feedback

##### Feedback

Students would like more clinical imaging cases incorporated into the tutorial component of the unit.

##### Recommendation

It is recommended that as time allows, more imaging cases could be added to the tutorial component of the unit. Additional cases could be added to the online platform that are discussed during the tutorial and which the students have access to at any time.

#### Feedback from Verbal feedback

##### Feedback

Students appreciated the depth of the authentic case content.

##### Recommendation

It is recommended that genuine, authentic teaching cases continue to be provided.

#### Feedback from Email

##### Feedback

Students appreciated the breadth of information and its application to other areas of their clinical studies.

##### Recommendation

It is recommended that when evaluating course content, the breadth of information continues to include application across other areas of the students' clinical learning experience.

## Unit Learning Outcomes

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

1. Implement a search strategy to identify and evaluate normal findings, abnormal changes and disease processes on radiographs
2. Create a differential diagnosis list in order to arrive at a provisional diagnosis based on radiographic and clinical findings
3. Select the appropriate management strategy for a variety of clinical and imaging abnormalities
4. Develop radiology report writing skills

Learning outcome 1 - Competency 1 (1.3), 3 (3.3 and 3.5)

Learning outcome 2 - Competency 3 (3.5)

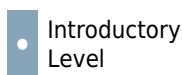
Learning outcome 3 - Competency 1 (1.3), 4 (4.1, 4.2, 4.3)

Learning outcome 4 - Competency 1 (1.1) 2 (2.4), 3 (3.5)

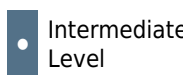
## Alignment of Learning Outcomes, Assessment and Graduate Attributes



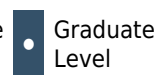
N/A  
Level



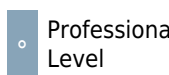
Introductory  
Level



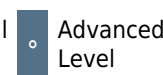
Intermediate  
Level



Graduate  
Level



Professional  
Level



Advanced  
Level

### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 40%		•	•	•
2 - Practical Assessment - 30%	•		•	
3 - Oral Examination - 30%	•	•		
4 - Case Study - 0%				•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Knowledge	○	○	○	○
2 - Communication	○	○	○	○
3 - Cognitive, technical and creative skills	○	○	○	○
4 - Research			○	
5 - Self-management				
6 - Ethical and Professional Responsibility	○	○	○	○
7 - Leadership				
8 - 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
1 - Written Assessment - 40%	○	○	○	○		○		
2 - Practical Assessment - 30%	○	○	○			○		
3 - Oral Examination - 30%	○	○	○			○		
4 - Case Study - 0%	○	○	○			○		

## Textbooks and Resources

### Textbooks

CHIR20005

#### Prescribed

##### **Atlas of Normal Roentgen Variants That May Simulate Disease**

Edition: Eight (2012)

Authors: Theodore E. Keats, Mark W. Anderson

Mosby

ISBN: 9780323073554, 0323073557

Binding: eBook

CHIR20005

#### Prescribed

##### **Yochum and Rowe's Essentials of Skeletal Radiology**

Edition: 3rd (2005)

Authors: Terry R Yochum and Lindsay J Rowe

Lippincott, Williams and Wilkins

ISBN: 9780781739467

Binding: Hardcover

[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 style: [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Kristin Grace** Unit Coordinator

[k.grace@cqu.edu.au](mailto:k.grace@cqu.edu.au)

## Schedule

### **Week 1 - Introduction to Diagnostic Imaging and Radiographic Interpretation - 10 Jul 2023**

Module/Topic	Chapter	Events and Submissions/Topic
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Lectures and tutorial: <ul style="list-style-type: none"> <li>• Role of imaging</li> <li>• Introduction to radiographic interpretation</li> <li>• Introduction to radiographic report writing</li> </ul>	Reading: <ul style="list-style-type: none"> <li>• Yochum and Rowe 3rd Edition (Y&amp;R) Chap. 15:             <ul style="list-style-type: none"> <li>• Report structure and content p. 1551-4 NOT past Report Variations for CT and MRI (this will not be addressed),</li> <li>• Risk Management Strategies in Interpretation and Report Writing p. 1556-8</li> <li>• Second opinion Specialty Radiology Reviews p. 1558-9</li> <li>• Case Study 1-5 p. 1560-1569</li> </ul> </li> </ul>
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### Week 2 - Scoliosis and Spondylolisthesis - 17 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lectures and tutorial: Scoliosis and Spondylolisthesis	Reading: 1. Y&R Chap. 4 & Chap. 5	

### Week 3 - Introduction to Arthropathies and Extra-axial Degenerative Arthropathies - 24 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Degenerative joint disease - extremities	Reading: • Y&R pp. 955-962; 977-987	

### Week 4 - Axial Degenerative Arthropathies - 31 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Degenerative arthritis of the spine and related conditions.	Reading: • Y&R pp. 963-977, 990-998, 998-999 • Fardon et al. Lumbar disc nomenclature: version 2.0. The Spine Journal 14 (2014) 2525-2545	

### Week 5 - Inflammatory & Autoimmune Arthropathies - 07 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Autoimmune/inflammatory arthropathies	Reading: • Y&R Chap. 10 pp. 1010-1033, 988-989	

### Vacation Week - 14 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic

### Week 6 - Seronegative Spondyloarthropathies - 21 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Seronegative spondyloarthropathies	Reading: • Y&R Chap. 10 pp. 1033-1068	Reporting Cases 1-3 Due Monday 21 August 2023 11:59pm

### Week 7 - Crystalline Deposition and Atypical Degenerative Arthropathies - 28 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Metabolic (crystalline deposition) and atypical degenerative arthropathy	Reading: • Y&R pp. 1084-1092, 1092-1099, 1099-1109, 1006-1010, 999-1005	

**Week 8 - Metabolic Conditions Affecting the Musculoskeletal System - 04 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Metabolic conditions affecting the musculoskeletal system	Reading: • Y&R pp. 1497-1510, 1517-1523	

**Week 9 - Bone and Joint Infection - 11 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Bone and joint infection	Reading: • Y&R pp. 1386-1417	

**Week 10 - Haematologic/ Vascular Disorders of the Skeleton - 18 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Hematologic/vascular disorders of the skeleton	<b>Chapter</b> Reading: • Y&R pp. 1427-1435, 1435-1440, 1444-1453	

**Week 11 - Skeletal Dysplasias and Normal Variants - 25 Sep 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Skeletal dysplasias and normal variants	Reading: • Y&R Chap. 8 pp. 721-727, 756-761, 765-774, 776-777	

**Week 12 - Reivew - 02 Oct 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Lecture and tutorial: Review	Reading:	Reporting Cases 4-6 Due Monday 02 October 2023 11:59pm  <b>VIVA/ Oral Interpretation</b> Due: Week 12 Friday (6 Oct 2023) 11:59 pm AEST

**Review/Exam Week - 09 Oct 2023**

Module/Topic	Chapter	Events and Submissions/Topic
		Assessments (subject to any change based on timetabling) Practical - Case Based OSCE Assessment 09/10/2023, 2:30-4:30pm End of Term Written Theory Assessment 12/10/2023; 1-3pm  <b>End of Term Written Theory Assessment</b> Due: Review/Exam Week Thursday (12 Oct 2023) 2:30 pm AEST <b>End of Term Practical Assessment - Case Based OSCE</b> Due: Review/Exam Week Monday (9 Oct 2023) 1:00 pm AEST <b>Written Case Reports</b> Due: Review/Exam Week Monday (9 Oct 2023) 11:59 pm AEST

**Exam Week - 16 Oct 2023**

Module/Topic	Chapter	Events and Submissions/Topic

## Assessment Tasks

### 1 End of Term Written Theory Assessment

**Assessment Type**

Written Assessment

**Task Description**

This assessment is to be online. The test will be comprised of a range of question formats, including multi choice, matching, short and long answer explanations.

This is a closed-book assessment and no notes, texts or additional electronic devices are allowed during this assessment task. You will have a 10 minute perusal time prior to the allotted writing time. The test will last for two (2) hours. You will submit your test electronically.

This test must be written at the timetabled date and time. If you arrive late, you may enter the test room up to 15 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 15 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**

Review/Exam Week Thursday (12 Oct 2023) 2:30 pm AEST

According to the Timetable

**Return Date to Students**

Exam Week Friday (20 Oct 2023)

**Weighting**

40%

**Minimum mark or grade**

50%

**Assessment Criteria**

In order to achieve a passing grade or higher, students will be required to demonstrate their competencies in the following areas:

1. Identify key principles and findings of pathology that may present on diagnostic imaging studies relevant to Chiropractic practice and their relationship to clinical information.
2. Demonstrate and effectively communicate an understanding of the pathogenesis of disorders that may present on diagnostic imaging studies relevant to Chiropractic practice.
3. Effectively communicate an understanding of referral pathways related to key findings on diagnostic imaging studies and associated clinical information.
4. Demonstrate the ability to appropriately order and interpret imaging relevant to Chiropractic practice.
5. Demonstrate the application of ALARA principles or other guidelines for the use of diagnostic imaging modalities

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Create a differential diagnosis list in order to arrive at a provisional diagnosis based on radiographic and clinical findings
- Select the appropriate management strategy for a variety of clinical and imaging abnormalities
- Develop radiology report writing skills

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Ethical and Professional Responsibility



## 2 End of Term Practical Assessment - Case Based OSCE

### Assessment Type

Practical Assessment

### Task Description

Students will review a series of image sets with or without an accompanying history from which they will be required to identify an abnormality, diagnose a condition or abnormality or answer a number of associated short answer questions. The clinical cases will align with content from the radiology lectures as well as relevant normal radiographic anatomy.

### Assessment Due Date

Review/Exam Week Monday (9 Oct 2023) 1:00 pm AEST

According to the Timetable

### Return Date to Students

Exam Week Friday (20 Oct 2023)

### Weighting

30%

### Minimum mark or grade

50%

### Assessment Criteria

In order to achieve a passing grade or higher, students will be required to demonstrate their competencies in the following areas:

1. Accurately identify pathologies covered in the course;
2. Apply appropriate terminology to describe the radiographic appearance and diagnosis of pathologies;
3. Demonstrate an understanding of appropriate referral pathways including GP, Specialist, Advanced Imaging, Pathology.
4. Effectively communicate key radiographic findings and their relationships to clinical information in a simulated clinical environment

### Referencing Style

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

### Submission

Online

### Learning Outcomes Assessed

- Implement a search strategy to identify and evaluate normal findings, abnormal changes and disease processes on radiographs
- Select the appropriate management strategy for a variety of clinical and imaging abnormalities

### Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

## 3 VIVA/ Oral Interpretation

### Assessment Type

Oral Examination

### Task Description

The student will be provided with 1 or 2 diagnostic imaging cases reflecting that which may present to a chiropractor and will represent those conditions presented during the term

The student will attend a 15 minute 'one-on-one, in person/online' assessment session and provide a verbal interpretation of the above cases to the lecturer. This assessment will be completed throughout Weeks 9-12. Times will be made available and posted for selection at Week 8.

Marking rubric for this component will be provided on Moodle

These assessments will be held one-on-one, in person, with the unit coordinator. The unit coordinator reserves the right to move this online via zoom if the need arises.

### Assessment Due Date

Week 12 Friday (6 Oct 2023) 11:59 pm AEST

\*\* These will take place between weeks 9-12. Times will be made available in week 8.

### **Return Date to Students**

Review/Exam Week Friday (13 Oct 2023)

### **Weighting**

30%

### **Minimum mark or grade**

50%

### **Assessment Criteria**

In order to achieve a passing grade or higher, students will be required to demonstrate their competencies in the following areas:

1. Identify normal radiographic anatomy
2. Identify pathologies covered in the course;
3. Apply appropriate terminology to describe the radiographic appearance and diagnosis of pathologies;
4. Effectively communicate key radiographic findings and their relationships to clinical information in a simulated clinical environment
5. Demonstrate an understanding of the contraindications to manual therapies;
6. Demonstrate an understanding of referral pathways including GP, Specialist, Advanced Imaging, Pathology where appropriate.

### **Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

### **Submission**

No submission method provided.

### **Learning Outcomes Assessed**

- Implement a search strategy to identify and evaluate normal findings, abnormal changes and disease processes on radiographs
- Create a differential diagnosis list in order to arrive at a provisional diagnosis based on radiographic and clinical findings

### **Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

## **4 Written Case Reports**

### **Assessment Type**

Case Study

### **Task Description**

Radiological reports are an important component of clinical management. It is crucial that chiropractors are able to construct adequate reports on films obtained in their clinics and comprehend terminology contained in reports on images provided. The student will construct Six (6) detailed radiology reports on separate case images. Instructions for locating the case images will be provided on the Moodle page.

Please note the following details:

- The report itself should be in the format presented in the course.
- Adhere to the template posted on Moodle
- 3 reports will be due by the end of week 6 and the remaining 3 reports will be due by the end of Week 12

This is a pass/ fail component and ALL reports must be turned in to pass. Feedback will be provided during discussion of the case in tutorial and a Model report will be uploaded following week 6 and week 12

### **Assessment Due Date**

Review/Exam Week Monday (9 Oct 2023) 11:59 pm AEST

\*\*Due weeks 6 & 12. See task description and class schedule for specific information\*\*

### **Return Date to Students**

### **Weighting**

Pass/Fail

**Minimum mark or grade**

This is a pass/ fail component. ALL reports must be submitted to achieve a pass.

**Assessment Criteria**

In order to achieve a passing grade or higher, students will be required to demonstrate their competencies in the following areas:

1. Identification of normal radiographic anatomy, anomalies or variations and pathologies covered in the course;
2. Apply appropriate terminology to describe the radiographic appearance and diagnosis of pathologies;
3. Demonstrate an understanding of the mechanics of radiographic report writing
4. Effectively communicate key radiographic findings and their relationships to clinical information in a simulated clinical environment
5. Demonstrate an understanding of appropriate referral pathways including GP, Specialist, Advanced Imaging, Pathology.

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Develop radiology report writing skills

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Ethical and Professional Responsibility

## 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