



# PODI13008 *Clinical Biomechanics of the Lower Limb*

## Term 1 - 2023

Profile information current as at 25/04/2024 06:53 pm

All details in this unit profile for PODI13008 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 be presented with common structural and functional variations of the lower limb as seen in podiatry practice. You will learn the aetiology, clinical diagnosis and management of common orthopaedic lower limb conditions. You will refine and develop your knowledge and skills in clinical gait analysis and biomechanical assessment which will be used to assess and diagnose biomechanical conditions of the lower limb. This will incorporate various motion analysis devices and medical equipment in the assessment and treatment of biomechanical conditions in a podiatric context.

### 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: PODI12010 Advanced Anatomy and Podiatric Biomechanics. To be enrolled in this unit, students must be enrolled in CB86 Bachelor of Podiatry Practice (Honours) course. Co-requisites: PODI13007 Podiatry Clinical Practice 2 and PODI13010 Sports in Podiatry Practice.

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 - 2023

- Rockhampton

### 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. **Written Assessment**

Weighting: 50%

#### 2. **Professional Practice Placement**

Weighting: Pass/Fail

#### 3. **On-campus Activity**

Weighting: 20%

#### 4. **Presentation**

Weighting: 30%

### 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 In-class

##### Feedback

Students enjoyed practicing their hands-on skills during the two-day professional practice placement

##### Recommendation

It is recommended that the professional practice placements continue to provide students with the opportunity to practice their hands-on clinical skills

#### Feedback from In-class

##### Feedback

Students would have liked to have this opportunity earlier in the term to reinforce the connection between the theoretical and practical concepts

##### Recommendation

It is recommended that the timing of the unit components be considered to better align the theoretical concepts with the relevant hands-on clinical assessments

## Unit Learning Outcomes

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

1. Assess podiatric cases involving clinical biomechanics of the lower limb, and interpret and analyse findings
2. Develop, implement, and evaluate podiatric interventions for patients with common biomechanical pathologies of the lower limb
3. Evaluate peer reviewed biomechanical literature to support decision making in podiatry practice.

Per NPC1304

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Written Assessment - 50%			•
2 - Professional Practice Placement - 0%	•	•	
3 - On-campus Activity - 20%	•		
4 - Presentation - 30%		•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
1 - Communication	•	•	•
2 - Problem Solving	•	•	•
3 - Critical Thinking	•	•	•
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 - Written Assessment - 50%	•	•	•	•		•				
2 - Professional Practice Placement - 0%	•	•	•	•	•		•	•		
3 - On-campus Activity - 20%	•	•	•	•	•					
4 - Presentation - 30%		•	•	•		•				

## Textbooks and Resources

### Textbooks

PODI13008

#### Prescribed

##### **Clinical Biomechanics of the Lower Extremities**

Edition: First

Authors: Ronald L. Valmassy

Mosby

ISBN: 9780801679865

Binding: Hardcover

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#### Supplementary

##### **Whittle's Gait Analysis**

Edition: Fifth

Authors: David Levine, Jim Richards, Michael W Whittle

Churchill Livingstone Elsevier

ISBN: 9780702042652

Binding: Paperback

[View textbooks at the CQUniversity Bookshop](#)

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Zoom (both microphone and webcam capability)

## 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

**Benjamin Peterson** Unit Coordinator

[b.peterson@cqu.edu.au](mailto:b.peterson@cqu.edu.au)

## Schedule

### Week 1 - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Overview of unit		
Review: Lower limb anatomy		
Review: Human gait cycle		
Introduction to the Root Theory of foot biomechanics		
Introduction to axes of motion		

### Week 2 - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Biomechanics and pathomechanics of the forefoot

### Week 3 - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Biomechanics and pathomechanics of the midtarsal joint and subtalar joint Forefoot to rearfoot relationships		

### Week 4 - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics and pathomechanics of the ankle		

### Week 5 - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Review: Root theory Sagittal plane facilitation Theory STJ axis equilibrium and rotational equilibrium theory Tissue Stress Unified Theory		

### Vacation Week - 10 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
No class during vacation week		

### Week 6 - 17 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics and pathomechanics of the knee		Biomechanical placement day 1

### Week 7 - 24 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics and pathomechanics of the thigh and hip		Biomechanical Placement Day 2 <b>Professional Placement</b> Due: Week 7 Wednesday (26 Apr 2023) 11:45 pm AEST

### Week 8 - 01 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
No class. Self-directed revision and assessment preparation.		<b>Written Assessment</b> Due: Week 8 Friday (5 May 2023) 11:59 pm AEST

### Week 9 - 08 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics and pathomechanics of the low back		<b>Presentation</b> Due: Week 9 Monday (8 May 2023) 11:59 pm AEST

### Week 10 - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Dynamic gait analysis		

### Week 11 - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Preparation for Presentation in Week 12		

## Week 12 - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
		<b>On campus activity</b> Due: Week 12 Friday (2 June 2023) 11:59 pm AEST

## Review/Exam Week - 05 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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## Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
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## Assessment Tasks

### 1 Written Assessment

#### Assessment Type

Written Assessment

#### Task Description

Students will be required to submit a written assignment which covers material delivered from weeks 1 to 5. The written assessment will include a number of short-answer questions to case-study questions in addition to an essay of 2500 words (+/- 10%) words. The essay will introduce the five main podiatric biomechanical theories (Root theory, Sagittal plane facilitation theory, STJ axis equilibrium and rotational equilibrium theory, Tissue Stress theory and the Unified theory) covered in Weeks 1-5. Students will need to provide a brief introduction to the theories and how these theories relate to clinical assessments and orthotic prescription (approximately 500 words per theory).

#### Assessment Due Date

Week 8 Friday (5 May 2023) 11:59 pm AEST

Students must submit their assessment via moodle by the due date

#### Return Date to Students

Week 10 Friday (19 May 2023)

#### Weighting

50%

#### Assessment Criteria

Your report must include:

- Cover Page: Assessment Title, student's name, student number, unit code, unit title, unit lecturer's name, due date of the assignment and word count.
  - Format:
    - Microsoft Word document only (.doc and .docx), or PDF.
    - Font size 12 (Times New Roman or Arial or reasonable default-type font such as Calibri)
    - Text double spaced
    - Pages numbered consecutively
    - Your student number must be clearly seen in the right side of the footer.
  - References:
    - APA format
    - Reference at least 10 primary sources of information
- You will be marked according to a purpose made marking rubric which will be made available at the beginning of term.

#### Referencing Style

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

#### Submission

Online

#### Submission Instructions

Submission via the Assessment Tab on Moodle

#### Learning Outcomes Assessed

- Evaluate peer reviewed biomechanical literature to support decision making in podiatry practice.

## Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 2 Professional Placement

### Assessment Type

Professional Practice Placement

### Task Description

Students are to complete two (2) days of biomechanical placement in Weeks 6 and 7.

On Day 1, students will practice and perform all the skills listed on Page 2 of the biomechanical assessment form. On

Day 2, students will practice and perform all the skills listed on Page 1 of the biomechanical assessment form.

Students will receive feedback from the clinical supervisor during the day regarding areas that require improvement.

Students can practice each skill as many times as necessary.

This is an individual assessment task. In some circumstances, students may have to work in groups (patient is unable to attend). In this instance, students must ensure that all members of the team contribute equally to the task. This must be demonstrated to the satisfaction of the clinical supervisor.

### Assessment Due Date

Week 7 Wednesday (26 Apr 2023) 11:45 pm AEST

Students are to upload their clinical skills log book as evidence of completion of this task.

### Return Date to Students

Feedback will be provided in-person by the clinical supervisor at the time of the assessment

### Weighting

Pass/Fail

### Minimum mark or grade

Pass

### Assessment Criteria

Students will be examined based on their assessment, presentation skills, and evaluation of their 'patient'. During the course of the day, students will be required to present their assessment findings to the clinical supervisor. Students may be asked to demonstrate selected assessment components, and/or be posed questions regarding their presentation and evaluation. Students will be required to be at a competent level for every criteria and at an 'Overall Competent' level by the end of the 2 placement days. If students are assessed as 'not competent', they will be able to practice the skill again and request to be re-assessed within the same day.

### Referencing Style

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

### Submission

Online

### Learning Outcomes Assessed

- Assess podiatric cases involving clinical biomechanics of the lower limb, and interpret and analyse findings
- Develop, implement, and evaluate podiatric interventions for patients with common biomechanical pathologies of the lower limb

## Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Cross Cultural Competence
- Ethical practice



### 3 On campus activity

**Assessment Type**

On-campus Activity

**Task Description**

Each week, during tutorials, students will be required to complete a range of tutorial activities. Students are required to complete the activities and submit them via Moodle. Additional detail about this assessment task will be provided to students at the beginning of the term.

**Assessment Due Date**

Week 12 Friday (2 June 2023) 11:59 pm AEST

Students are to upload their marked task sheets on their Moodle site

**Return Date to Students****Weighting**

20%

**Assessment Criteria**

Students will be marked according to a task sheet specific to this assessment task.

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Assess podiatric cases involving clinical biomechanics of the lower limb, and interpret and analyse findings

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work

### 4 Presentation

**Assessment Type**

Presentation

**Task Description**

Students will be required to provide a PowerPoint oral presentation worth 30% based on a biomechanical case study. The oral presentation will be up to 15 minutes long with a Question and Answer session of 5 minutes. Students can choose to present 'live' or play a pre-recorded video presentation. The student must be present to answer questions during the Question and Answer session. This is an individual assessment task. Referencing (if any) should follow Vancouver format.

**Assessment Due Date**

Week 9 Monday (8 May 2023) 11:59 pm AEST

Students will present their presentation during the week 9 lecture time and are required to submit their powerpoint slides or presentation on their Moodle site. The presentation will be presented during the normal lecture time on Monday May 30th.

**Return Date to Students**

Week 11 Monday (22 May 2023)

**Weighting**

30%

**Assessment Criteria**

Students will be marked according to a purpose made marking rubric which will be able available on the student's Moodle site.

**Referencing Style**

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

## Submission

Online

## Learning Outcomes Assessed

- Develop, implement, and evaluate podiatric interventions for patients with common biomechanical pathologies of the lower limb
- Evaluate peer reviewed biomechanical literature to support decision making in podiatry practice.

## Graduate Attributes

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

## 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