



# PODI12010 Advanced Anatomy and Podiatric Biomechanics

## Term 2 - 2019

Profile information current as at 13/12/2025 05:44 pm

All details in this unit profile for PODI12010 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

This unit will provide you with comprehensive knowledge in functional anatomy and biomechanics of the lower limb specifically required in the profession of podiatry. A strong focus will be on the integration of anatomical structures and functions and how these both influence, and are influenced by the manner in which the skeletal, muscular, nervous, and circulatory systems work together. You will learn to use biomechanical terminology relating to the lower extremity that describes motion, position and structural abnormality. Theoretical principles, measurement techniques and gait analysis will also be investigated.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Prerequisites: ALLH11005 Anatomy and Physiology for Health Professionals 1 and ALLH11004 Anatomy and Physiology for Health Professionals 2. PODI12006 Fundamentals of Pre-Clinical Podiatry Practice. Corequisite: PODI12009 Podiatry Clinical Practice 1.

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 - 2019

- Rockhampton
- 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. **Online Quiz(zes)**

Weighting: 30%

#### 2. **Practical and Written Assessment**

Weighting: 20%

#### 3. **Examination**

Weighting: 50%

#### 4. **On-campus Activity**

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 Have Your Say

##### Feedback

Students had expected the unit to be much harder. There were more than 100 slides per topic in previous years. However, this year, each lecture had no more than 30 slides. The students appreciated that the material was just enough to understand the content but not overload. Complex concepts were simplified and a summary was provided in the following lecture to reinforce knowledge.

##### Recommendation

The difficulty students often face in taking this unit nearly a year after the pre-requisite unit in anatomy will continue to be addressed through the use of focused content and succinct lecture slides.

#### Feedback from Have Your Say

##### Feedback

The return of assessment tasks timing was very prompt, so students were not left wondering how it went.

##### Recommendation

The Unit Coordinator will continue to provide prompt feedback to facilitate student progression and learning in the unit.

#### Feedback from Have Your Say

##### Feedback

This unit also focused on lower limb biomechanics, which required a prior knowledge of science subjects such as physics. Students who did not have a background in Math and Physics found it difficult to understand concepts such as torque, moments and ground reaction forces.

##### Recommendation

It should not be assumed that all students have a background in Year 12 Physics and Maths. Whilst the lectures have to continue in a similar pace in order to cover the content, more time could be spent going through these concepts in small groups, such as during tutorials and practicals. The first six weeks focused on functional anatomy, whilst the later 6 weeks focused on biomechanics. The unit co-ordinator will investigate introducing the biomechanical content earlier so that students have more time to understand key concepts and ask questions during the term. The feasibility of providing individual Zoom sessions should also be explored for the students who require extra help in these basic science topics.

## Unit Learning Outcomes

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

1. Describe and explain the functional anatomy of all muscle, tendon and joint units of the lower limb
2. Interpret the mechanical, physiological and anatomical concepts in the context of human physical performance
3. Use the key biomechanical terms and principles relating to the lower extremity, which describe motion, position and/or deformity
4. Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity
5. Analyse the gait cycle, its determinants and the related phases of human locomotion.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes



## Textbooks and Resources

### Textbooks

PODI12010

#### Prescribed

#### **Clinical biomechanics of the lower extremities**

Edition: First (1996)

Authors: Ronald L. Valmassey

Mosby

St Louis , Missouri , USA

ISBN: 978-0801679865

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 6th Edition \(APA 6th edition\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Malia Ho** Unit Coordinator

[m.ho@cqu.edu.au](mailto:m.ho@cqu.edu.au)

## Schedule

### **Week 1 - 15 Jul 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Overview of Advanced Anatomy and Podiatric Biomechanics		
Kinematic Concepts of Human Movement		

### **Week 2 - 22 Jul 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Kinetic Concepts of Human Movement		

### **Week 3 - 29 Jul 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of Human Bone Growth and Development		
Biomechanics of Human Skeletal Articulations		
Revision: Bones and Joints of the Lower Limb		

**Week 4 - 05 Aug 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of Human Skeletal Muscle Biomechanics of Human Lower Extremity Revision: Muscles of the Lower Limb		

**Week 5 - 12 Aug 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Block Practical Sessions		

**Vacation Week - 19 Aug 2019**

Module/Topic	Chapter	Events and Submissions/Topic
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**Week 6 - 26 Aug 2019**

Module/Topic	Chapter	Events and Submissions/Topic
The Gait Cycle		<b>Online quiz</b> Due: Week 6 Thursday (29 Aug 2019) 9:00 am AEST

**Week 7 - 02 Sep 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Linear and Angular Kinematics of the Lower Limb During Gait		

**Week 8 - 09 Sep 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Linear and Angular Kinetics of the Lower Limb During Gait		

**Week 9 - 16 Sep 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Review and Block Practical Sessions		

**Week 10 - 23 Sep 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Review week for OSCE		

**Week 11 - 30 Sep 2019**

Module/Topic	Chapter	Events and Submissions/Topic
		OSCE (20%)  <b>Practical and Written Assessment</b> Due: Week 11 Thursday (3 Oct 2019) 9:00 am AEST

**Week 12 - 07 Oct 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Review Week for Examination		<b>On Campus Activity</b> Due: Week 12 Thursday (10 Oct 2019) 1:00 pm AEST

**Review/Exam Week - 14 Oct 2019**

Module/Topic	Chapter	Events and Submissions/Topic
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**Exam Week - 21 Oct 2019**

Module/Topic	Chapter	Events and Submissions/Topic
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## Term Specific Information

**Attendance:** As per the University's recommendation that "All on-campus students are expected to attend scheduled classes," students should also be aware that there is clear evidence to show that attendance rates are directly related to academic progress. It is therefore in your best interest and strongly recommended in the Bachelor of Podiatry Practice (Honours) course, that you attend all scheduled learning activities to support your learning.

**Uniform:** In all practical classes, students are required to wear the nominated uniform. Students must purchase their uniform from the bookshop. This uniform is separate to the mandatory clinical uniform. Please refer to the Podiatry Course Handbook for further details.

**Block Placements:** Students in Rockhampton campus will attend weekly practical sessions during the weekly timetabled practical time. Sydney campus students will have self directed learning sessions and therefore are not required to attend weekly practical sessions. Sydney campus students will attend block practical sessions in weeks listed with block practicals. Rockhampton campus students will have self directed learning sessions during block practical weeks.

## Assessment Tasks

### 1 Online quiz

#### Assessment Type

Online Quiz(zes)

#### Task Description

The Online Quiz in week 6 (29th August 2019) will consist of multiple choice and short answer questions. Content from weeks 1 - 5 will be included.

The quiz will have a time limit of 60 minutes. The quiz will take place in a computer lab (or equivalent location) and is a closed book task. Access to books, notes, websites (other than the quiz) and the use of other electronic devices are prohibited during the quiz.

#### Number of Quizzes

#### Frequency of Quizzes

Other

#### Assessment Due Date

Week 6 Thursday (29 Aug 2019) 9:00 am AEST

#### Return Date to Students

Week 12 Thursday (10 Oct 2019)

#### Weighting

30%

#### Assessment Criteria

No Assessment Criteria

#### Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

#### Submission

Online

#### Learning Outcomes Assessed

- Describe and explain the functional anatomy of all muscle, tendon and joint units of the lower limb
- Interpret the mechanical, physiological and anatomical concepts in the context of human physical performance

#### Graduate Attributes

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

- Ethical practice

## 2 Practical and Written Assessment

### Assessment Type

Practical and Written Assessment

### Task Description

The assessment on week 11 (3rd October 2019) will include a number of written and practical stations, each up to 10 minutes in length. The assessment will examine your clinical knowledge of functional anatomy of the lower limb. Based on written clinical scenarios you will be required to discuss (either verbally and/or written) and/or perform aspects of biomechanical assessments of the lower limb and analyses of the walking gait cycle. You will also be expected to complete relevant patient documentation. All assessments may be video and/or audio-recorded for moderation purposes. You are expected to arrive at least 15 minutes before the allocated start time for the assessment and to wear full clinical uniform with enclosed shoes. This assessment is closed book.

### Assessment Due Date

Week 11 Thursday (3 Oct 2019) 9:00 am AEST

### Return Date to Students

Week 12 Thursday (10 Oct 2019)

### Weighting

20%

### Minimum mark or grade

50%

### Assessment Criteria

In order to be eligible to PASS this assessment, you must achieve a minimum overall grade of 50%.

If you do not meet the above criterion of a minimum overall grade of 50%, you may be eligible for a supplementary assessment providing you meet the requirements as stipulated in the CQUniversity Grades and Results Procedure and this will be determined by the Unit Coordinator.

### Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

### Submission

Offline

### Learning Outcomes Assessed

- Describe and explain the functional anatomy of all muscle, tendon and joint units of the lower limb
- Interpret the mechanical, physiological and anatomical concepts in the context of human physical performance
- Use the key biomechanical terms and principles relating to the lower extremity, which describe motion, position and/or deformity
- Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity
- Analyse the gait cycle, its determinants and the related phases of human locomotion.

### Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Ethical practice

## 3 On Campus Activity

### Assessment Type

On-campus Activity

### Task Description

You will be expected to complete a number of compulsory competency tasks that forms part of a checklist.

The competency tasks will be made available to you at the start of term. Each competency task will be completed during tutorial and/or practical sessions and your attendance and participation is compulsory. More details and information regarding the on campus activities will be made available at the start of term.



**Assessment Due Date**

Week 12 Thursday (10 Oct 2019) 1:00 pm AEST

**Return Date to Students**

Week 12 Thursday (10 Oct 2019)

**Weighting**

Pass/Fail

**Minimum mark or grade**

Pass

**Assessment Criteria**

The on-campus activities in this unit consists of competency tasks relating to professional biomechanical assessment skills, which are inherent requirements to meet the professional standards. Satisfactory completion of these activities on-campus are integral to your achievement of learning outcomes and assessment of this unit and other units within the course. Participation in **ALL** competency tasks is required for you to satisfactorily **PASS** this unit.

If you are unable to attend campus, you must notify the Unit Coordinator (in writing/by e mail) as soon as possible, and provide a medical certificate or statutory declaration supporting any absence within five (5) working days. If the required documentation is not provided to the Unit Coordinator within the stipulated time frame, you will be marked as 'Absent' for the session. Failure to demonstrate a satisfactory competency record for on-campus activities will seriously undermine your ability to complete this unit and will result in a 'Fail' grade.

**Referencing Style**

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

**Submission**

Offline

**Learning Outcomes Assessed**

- Describe and explain the functional anatomy of all muscle, tendon and joint units of the lower limb
- Interpret the mechanical, physiological and anatomical concepts in the context of human physical performance
- Use the key biomechanical terms and principles relating to the lower extremity, which describe motion, position and/or deformity
- Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity
- Analyse the gait cycle, its determinants and the related phases of human locomotion.

**Graduate Attributes**

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

**Examination****Outline**

Complete an invigilated examination.

**Date**

During the examination period at a CQUniversity examination centre.

**Weighting**

50%

**Length**

180 minutes

**Exam Conditions**

Closed Book.

**Materials**

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

## 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