PODI12010 *Advanced Anatomy and Podiatric Biomechanics*
Term 1 - 2024

Profile information current as at 29/07/2024 03:43 pm

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: BMSC11007 Medical Anatomy and Physiology 1, BMSC11008 Medical Anatomy and Physiology 2, NUP 57075 Introduction to 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 - 2024

- 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).

Residential Schools
This unit has a Optional Residential School for distance mode students and the details are:
Click here to see your Residential School Timetable.

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. **Presentation**
Weighting: 40%
3. **Written Assessment**
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 Verbal student feedback and reflection

Feedback

The hands-on practical sessions in Week 5 and Week 10 were appreciated.

Recommendation

It is recommended that the practical sessions continue to take place in future deliveries of this unit.

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.

Learning Outcomes are linked to the Podiatry Board Competency Standards.

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 - Online Quiz(zes) - 30%	•	•		•	
2 - Presentation - 40%	•	•	•	•	•
3 - Written Assessment - 30%			•		•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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					

Textbooks and Resources

Textbooks

PODI12010

Prescribed

Clinical Biomechanics of the Lower Extremities
(1996)
Authors: Ronald Valmassy
Mosby Elsevier
St Louis , Missouri , USA
ISBN: 9780801679865
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)
- Zoom

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
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Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Unit overview Anatomy of the foot and ankle The skeletal system - development, function, and repair		

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Anatomy of the leg The muscular system - development, function and repair		

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Anatomy of the knee and thigh Kinematic concepts of human movement		

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Anatomy of the hip and pelvis Kinetic concepts of human movement		

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Practical session 1: Static biomechanical assessments		

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
No lecture or tutorial during vacation week		

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Podiatric Biomechanical Concepts (essential for students to review before class). This lecture will cover: - Joint axes - Open and closed chain motion - Open packed and closed packed positions - STJ and MTJ interdependence - The Windlass Mechanism Assessment 1 - Online Quiz (30% weighting) occurs during lecture time Tutorial ('Flip Classroom'): Podiatric Biomechanical Concepts		**Online quiz** Due: Week 6 Tuesday (16 Apr 2024) 9:00 am AEST

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
The human gait cycle		

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Student presentations (Assessement 2 - Presentation 40%) will take-place during the lecture time.		**Presentation** Due: Week 8 Tuesday (30 Apr 2024) 9:00 am AEST

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Practical session 2: Static and dynamic biomechanical assessments (attendance is essential in preparation for Assessment 3 - Written Assessment (30%))		

Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Term feedback session (Assessment 1 and 2) Preparing for Assessment 3 (Written Assessment, 30%)		

Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Self-directed assessment preparation		

Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
No class in Week 12. Written assessment due.		**Written assessment** Due: Week 12 Friday (31 May 2024) 11:59 pm AEST

Assessment Tasks

1 Online quiz

Assessment Type
Online Quiz(zes)

Task Description
The Online Quiz in Week 6 will consist of multiple choice and short-answer questions and cover content from Weeks 1 - 5. The quiz will have a time limit of 60 minutes and will be conducted during the usual lecture time (commencing at 9am). To promote academic integrity in this online assessment, students may be selected - either based on suspicion or a breach of academic integrrity, or at random - to undertake an oral VIVA following this assessment task to resolve any uncertainty regarding their responses. This is an individual assessment task.

Number of Quizzes
1

Frequency of Quizzes
Other

Assessment Due Date
Week 6 Tuesday (16 Apr 2024) 9:00 am AEST
This online test will open at 9am on Monday 16th April (Monday Week 6) and will close at 10:15am on Monday 16th April. The test duration is a maximum of one hour (60 minutes).

Return Date to Students
Week 8 Tuesday (30 Apr 2024)
Results will be made available via Moodle by Tuesday Week 8

Weighting
30%

Assessment Criteria
The assessment will be marked according to a purpose made answer guide designed specifically for this assessment task.

Referencing Style

- American Psychological Association 7th Edition (APA 7th 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
- Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity

2 Presentation

Assessment Type
Presentation

Task Description
This presentation can be presented 'live' or as a pre-recorded video and will cover content from Weeks 1-7. The presentation will be no longer than 15 minutes with a 'live' 5-minute question and answer session at the end. The presentation will be conducted during the lecture time in Week 8. The topic of this presentation will be a podiatric biomechanical assessment technique, which will be provided to students early in the term. This is an individual assessment task.

Assessment Due Date
Week 8 Tuesday (30 Apr 2024) 9:00 am AEST
Prior to your presentation, please submit your powerpoint slides or video recording before the due date/ time as evidence of completion of this assessment task.

Return Date to Students
Week 10 Tuesday (14 May 2024)
Results will be made available via Moodle and group feedback will be provided during class time in Week 10

Weighting
40%

Assessment Criteria
The assessment will be marked according to a marking rubric designed specifically for this assessment task. The assessment criteria will require students to address the following:
a. A brief history and overview of the biomechanical assessment technique, including the clinically relevant anatomy
b. The advantages and disadvantages of the assessment technique, including but not limited to the reliability and validity of the measurement
c. A demonstration of the performance and interpretation of the assessment, using appropriate anatomical and biomechanical terminology
d. Adherance to APA referencing format
e. Performance in a live question and answer session addressing the relevant unit learning outcomes
The assessment rubric for the oral presentation will be provided to you at the start of term. If the presentation exceeds the 15 minute time limit, you may opt to complete the presentation but any additional content that is over the time limit will not be assessed by the examiner.

Referencing Style

- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Submission Instructions
Presentations will occur during the lecture time in Week 8 (commencing at 9am) according to an assessment schedule which will be made available via Moodle. Presentations must be uploaded to Moodle prior to 9am on the due date.

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.

3 Written assessment

Assessment Type
Written Assessment

Task Description
This written assessment worth 30% will consist of a report of an analysis of the human gait cycle.
The written assessment overview and instructions will be provided to you at the start of the term via Moodle. This is an individual assessment task.

Assessment Due Date
Week 12 Friday (31 May 2024) 11:59 pm AEST
Submission via moodle by the due date

Return Date to Students
Exam Week Friday (14 June 2024)
Marks for this final assessment will be made available via moodle

Weighting
30%

Assessment Criteria
The written assessment will be marked according to a purpose made marking rubric for this assessment task. The marking rubric will be made available to you at the start of the term. Your written assessment must include:

- A cover page which includes assessment title, student's name and number, Unit Coordinators name, course code and title, due date.
- The gait analysis report and responses to questions related to podiatric biomechanical principles.
- Referencing (if any) should follow APA format. Please also ensure that each page of your report has a page number and your student number. The text should be in Size 12 Arial font, 1.5 cm spacing with 2 cm page margins. All tables and figures must be labelled and referenced appropriately in the text.

Referencing Style

- American Psychological Association 7th Edition (APA 7th edition)

Submission
Online

Submission Instructions
Submission via moodle

Learning Outcomes Assessed

- Use the key biomechanical terms and principles relating to the lower extremity, which describe motion, position and/or deformity
- Analyse the gait cycle, its determinants and the related phases of human locomotion.

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