



# ALLH12008 *Functional Anatomy and Biomechanics*

## Term 1 - 2019

Profile information current as at 10/04/2024 04:08 pm

All details in this unit profile for ALLH12008 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 a comprehensive overview of functional anatomy and applied biomechanics, with a focus on understanding the determinants of human movement and locomotion. The unit will build upon your existing knowledge of musculoskeletal anatomy and physiology, and develop your skills in qualitative and quantitative assessment of human movement, to better understand musculoskeletal injury mechanisms and rehabilitation strategies.

### 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

To enrol in this unit you must be enrolled in the CB85 Course and meet the following pre-requisites and co-requisites:

Prerequisites: BMSC11007 Medical Anatomy and Physiology 1 BMSC11008 Medical Anatomy and Physiology 2

PSIO11003 Foundations of Physiotherapy Practice 2 Co-requisite: PSIO12001 Musculoskeletal Physiotherapy 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 1 - 2019

- Bundaberg
- 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. **In-class Test(s)**

Weighting: 20%

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

Weighting: 30%

#### 3. **In-class Test(s)**

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 Student Feedback - Have Your Say

##### **Feedback**

Students generally enjoyed the 'new' practical components introduced into the tutorials, however, some students requested more time be allocated to complete the tutorial questions.

##### **Recommendation**

The balance between practical and theoretical activities within each practical session and across the entire unit will be reviewed and modified accordingly. If required, some practical activities will be removed to ensure adequate time to complete important tutorial questions in-class.

#### Feedback from Student Feedback - Have Your Say

##### **Feedback**

A number of students commented that the extra two-hour Q&A revision session was extremely helpful in preparing for their final assessment task.

##### **Recommendation**

This session will be offered again in 2019. An additional Q&A revision session held during mid-term, and for the same assessment task, will also be considered for 2019.

#### Feedback from Student Feedback - Have Your Say and Email correspondence.

##### **Feedback**

A large number of students from the Rockhampton campus commented that the audio quality during both live and recorded lectures was 'extremely poor' and impacted their student experience and exam preparation.

##### **Recommendation**

As per previous years, we will submit a timetabling request to schedule all live lectures for ALLH12008 in dedicated lecture theatres, and not practical/tutorial rooms.

#### Feedback from Student Feedback - Have Your Say

##### **Feedback**

A number of students found the Written Assignment extremely challenging and felt that the weighting may be too high for the time required to complete it.

##### **Recommendation**

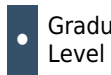
This assessment task will be reviewed, and if required, modified or replaced with a new assessment task more appropriate to the Graduate Attribute level of this unit (i.e. Intermediate).

## Unit Learning Outcomes

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

1. Demonstrate sound knowledge of structural and functional anatomy in the context of human movement, injury and rehabilitation
2. Explain and interpret key biomechanical principles and measurement techniques in the context of human movement, injury and rehabilitation
3. Select, perform and interpret qualitative and/or quantitative assessments of functional anatomy and applied biomechanics relevant to physiotherapy practice
4. Demonstrate acceptable professional and ethical behaviours consistent with a physiotherapy practitioner and community leader.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes

N/A  
LevelIntroductory  
LevelIntermediate  
LevelGraduate  
LevelProfessional  
LevelAdvanced  
Level

## Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - In-class Test(s) - 20%	•	•		
2 - Practical Assessment - 30%			•	•
3 - In-class Test(s) - 50%	•	•		
4 - On-campus Activity - 0%				•

## Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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 - In-class Test(s) - 20%	•	•	•	•						
2 - Practical Assessment - 30%	•	•	•	•			•	•		
3 - In-class Test(s) - 50%	•	•	•	•						

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
<b>4 - On-campus Activity - 0%</b>										

## Textbooks and Resources

### Textbooks

ALLH12008

#### Prescribed

##### **Kinesiology of the musculoskeletal system: Foundations for rehabilitation**

Edition: 3rd (2016)

Authors: Donald A. Neumann

Mosby Elsevier

St. Louis , Missouri , USA

ISBN: 978-0-3232-8753-1

Binding: Hardcover

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#### Supplementary

##### **Neuromechanics of Human Movement**

Edition: 5th (2015)

Authors: Roger Enoka

Human Kinetics

Champaign , Illinois , USA

ISBN: 9781450458801

Binding: Paperback

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#### Supplementary

##### **Orthopedic Physical Assessment**

Edition: 6th (2014)

Authors: David J Magee

Elsevier

St Louis , Missouri , USA

ISBN: 978-1-4557-0977-9

Binding: Hardcover

#### Additional Textbook Information

Copies can be purchased from the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[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

**Steven Obst** Unit Coordinator  
[s.obst@cqu.edu.au](mailto:s.obst@cqu.edu.au)

## Schedule

### Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to course, overview of assessment tasks Introduction to biomechanical analysis	Chapters 1 and 4 (Neumann, 2017)	

### Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of bone and cartilage Biomechanics of skeletal muscle and tendon	Chapters 2 and 3 (Neumann, 2017)	

### Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of joints Biomechanics of the hip	Chapters 2 and 12 (Neumann, 2017)	

### Week 4 - 01 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of the knee Biomechanics of the ankle	Chapters 13 and 14 (Neumann, 2017)	

### Week 5 - 08 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of the foot	Chapter 14 (Neumann, 2017)	<b>Mid-Term Test</b> Due: Week 5 Wednesday (10 Apr 2019) 10:00 am AEST

### Vacation Week - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
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### Week 6 - 22 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Gait Analysis (Part 1): Gait cycle, joint kinematics Gait Analysis (Part 2): Joint kinetics, muscle activation	Chapters 15 and 16 (Neumann, 2017)	

### Week 7 - 29 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of the spine (Part 1): Joints Biomechanics of the spine (Part 2): Musculature	Chapters 9 and 10 (Neumann, 2017)	

### Week 8 - 06 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of the spine (Part 3): Injury mechanisms and lifting techniques	Chapters 9 and 10 (Neumann, 2017)	

**Week 9 - 13 May 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of the shoulder (Part 1): Joints Biomechanics of the shoulder (Part 2): Musculature	Chapter 5 (Neumann, 2017)	Reminder to complete the 'Have your say' Unit evaluations.

**Week 10 - 20 May 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of the elbow and forearm Biomechanics of the wrist and hand	Chapters 6, 7 and 8 (Neumann, 2017)	Reminder to complete the 'Have your say' Unit evaluations.

**Week 11 - 27 May 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Revision	N/A	Reminder to complete the 'Have your say' Unit evaluations.

**Week 12 - 03 Jun 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Assessment and Revision	N/A	Reminder to complete the 'Have your say' Unit evaluations.  <b>End-Term Test</b> Due: Week 12 Wednesday (5 June 2019) 1:00 pm AEST

**Review/Exam Week - 10 Jun 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Revision and examination preparation.	N/A	The Practical Assessment (30%) to be held in either Exam Week 1 or Exam Week 2. Reminder to complete the 'Have your say' Unit evaluations.

**Exam Week - 17 Jun 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Revision and examination preparation.	N/A	The Practical Assessment (30%) to be held in either Exam Week 1 or Exam Week 2. Reminder to complete the 'Have your say' Unit evaluations.

## Assessment Tasks

### 1 Mid-Term Test

**Assessment Type**

In-class Test(s)

**Task Description**

The Mid-Term Test is a 1 hour (60 minutes) closed book assessment that will be held on-campus (Bundaberg and Rockhampton only) and delivered online via the Moodle platform. Access to books, notes, websites (other than the examination) and the use of other electronic devices are prohibited during the test. The Mid-Term Test will examine all content covered from weeks 1 to 4, inclusive, including all lectures, practicals and required readings.

The test will include some, or all, of the following question types:

- Multiple choice
- True/False
- Word matching
- Fill in the missing word(s)

- Short answer/essay

### **Assessment Due Date**

Week 5 Wednesday (10 Apr 2019) 10:00 am AEST

### **Return Date to Students**

Results will be accessible on Moodle within two weeks of the submission date.

### **Weighting**

20%

### **Assessment Criteria**

All questions will be marked numerically and an overall percentage mark will be awarded.

### **Referencing Style**

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

### **Submission**

Online

### **Submission Instructions**

The Mid-Term Test will be an online test held on-campus and delivered via the Moodle platform.

### **Learning Outcomes Assessed**

- Demonstrate sound knowledge of structural and functional anatomy in the context of human movement, injury and rehabilitation
- Explain and interpret key biomechanical principles and measurement techniques in the context of human movement, injury and rehabilitation

### **Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

## **2 Surface Anatomy and Muscle Function**

### **Assessment Type**

Practical Assessment

### **Task Description**

The Practical Assessment will evaluate your theoretical knowledge, and practical application, of structural and functional anatomy. The Practical Assessment will last approximately 30 minutes (i.e. 10 min preparation time and 20 min assessment time) and will include two clinical stations (i.e. 10 min per station), each assessed by a different examiner. Clinical Station 1 will assess your ability to perform a safe and accurate surface anatomy palpation assessment of up to five (5) selected anatomical structures. Clinical Station 2 will assess your ability to conduct a safe and accurate clinical assessment of muscle function (e.g. activation, strength, endurance etc.) of up to 2 selected muscle groups using standardised procedures and equipment.

During each clinical station you may also have to:

- Demonstrate theoretical knowledge of structural and functional anatomy, including, but not limited to, the following topics:
  - Skeletal muscle names, origins, insertions, actions and innervations.
  - Ligament names, origins, insertions, functions and mechanisms of injury.
  - Peripheral nervous system anatomy, including peripheral nerve paths, spinal root contributions, and motor and sensory innervation zones/patterns.
  - Bone and joint structure and function, including knowledge of joint classification systems, normal and abnormal kinematics, and mechanisms of injury.
- Identify and act upon any precautions and/or contraindications to a clinical assessment.
- Demonstrate knowledge and clinical reasoning in the selection of a clinical assessment.
- Demonstrate clear, effective and thorough communication.
- Demonstrate safe and effective application of a clinical assessment.
- Explain and interpret the findings of a clinical assessment.

All material relevant to musculoskeletal anatomy and biomechanics from any pre-requisite and/or co-requisite unit is also examinable in the Practical Assessment. You need to be appropriately attired in your full clinical uniform for the

assessment. If you are required to be a 'simulated patient' for another student's assessment, please bring additional clothes suitable for a clinical assessment.

#### **Assessment Due Date**

#### **Return Date to Students**

Final grades will be made available on Moodle within two weeks of completion of the assessment.

#### **Weighting**

30%

#### **Assessment Criteria**

The assessment rubric for this assessment task is based on the Australian Standards for Physiotherapy, the Accreditation Standard set by the Australian Physiotherapy Council and the Assessment of Physiotherapy Practice Instrument. These quality frameworks are mapped against the CQUniversity Graduate Attributes, and are intended to give a holistic understanding of standards expected for the assessment task.

Detailed marking criteria will be available on the unit Moodle site, and will include the following rubric categories and weightings:

- Professional Behaviour and Safety (10%)
- Communication (10%)
- Anatomical and biomechanical knowledge (40%)
- Selection, application and interpretation of assessment (40%)

#### **Referencing Style**

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

#### **Submission**

No submission method provided.

#### **Learning Outcomes Assessed**

- Select, perform and interpret qualitative and/or quantitative assessments of functional anatomy and applied biomechanics relevant to physiotherapy practice
- Demonstrate acceptable professional and ethical behaviours consistent with a physiotherapy practitioner and community leader.

#### **Graduate Attributes**

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

## **3 End-Term Test**

#### **Assessment Type**

In-class Test(s)

#### **Task Description**

The End-Term Test is a 2.5 hour (150 minutes), paper-based, written assessment that will examine all content covered during the term, including lectures, practicals and required readings. The assessment will include short answer/essay questions only. These questions will require you to interpret images and/or clinical scenarios to answer questions that assess your theoretical knowledge of functional anatomy and biomechanics, as well as your observational, analytical and problem-solving skills.

The End-Term Test is a closed book examination that will be held on-campus (Bundaberg and Rockhampton only). Access to books, notes, websites, and the use of other electronic devices, are prohibited during the test.

#### **Assessment Due Date**

Week 12 Wednesday (5 June 2019) 1:00 pm AEST

#### **Return Date to Students**

Final grades will be published on Moodle within two weeks of completion of the assessment.

**Weighting**

50%

**Minimum mark or grade**

A minimum mark of 50% is required to pass this assessment task.

**Assessment Criteria**

The End-Term Test will be marked manually to provide a numerical score and an overall percentage mark for the assessment item.

**Referencing Style**

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

**Submission**

Offline

**Learning Outcomes Assessed**

- Demonstrate sound knowledge of structural and functional anatomy in the context of human movement, injury and rehabilitation
- Explain and interpret key biomechanical principles and measurement techniques in the context of human movement, injury and rehabilitation

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy

## 4 Attendance Hurdle

**Assessment Type**

On-campus Activity

**Task Description**

A minimum attendance rate of 85% for all scheduled tutorial and practical sessions is required to PASS this unit. This minimum attendance requirement is recommended by the Australian Physiotherapy Council. The monitoring of attendance will take into consideration legitimate requests for absence, such as those outlined in the CQUniversity Assessment Policy and Procedure (Higher Education Coursework) document, and these will not be counted as absence for the purpose of this attendance requirement.

**Assessment Due Date**

Attendance rate will be determined at the end of term (i.e. Week 12)

**Return Date to Students**

Attendance rate will be determined at the end of term (i.e. Week 12)

**Weighting**

Pass/Fail

**Minimum mark or grade**

In order to be eligible to PASS this unit, you must achieve a PASS for the Attendance Hurdle. To PASS the Attendance Hurdle you must attend at least 85% of all scheduled tutorials/practicals for this unit.

**Assessment Criteria**

Your attendance at each scheduled practical session will be recorded by the tutor using an attendance spreadsheet. The monitoring of attendance will take into consideration legitimate requests for absence, such as those outlined in the CQUniversity Assessment Policy and Procedure (Higher Education Coursework) document, and these will not be counted as absence for the purpose of this attendance requirement.

**Referencing Style**

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

**Submission**

No submission method provided.

**Learning Outcomes Assessed**

- Demonstrate acceptable professional and ethical behaviours consistent with a physiotherapy practitioner and community leader.

#### **Graduate Attributes**

- Ethical practice

## 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