



ALLH12008 *Functional Anatomy and Biomechanics*

Term 1 - 2017

Profile information current as at 04/05/2024 07:07 am

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 students with a comprehensive overview of the functional anatomy and biomechanics, of human movement generally, but of locomotion more specifically. 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 are integrated.

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 ALLH11004 Anatomy and Physiology for Health Professionals 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 - 2017

- 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. **Online Quiz(zes)**

Weighting: 30%

2. **Written Assessment**

Weighting: 20%

3. **On-campus Activity**

Weighting: Pass/Fail

4. **Practical Assessment**

Weighting: 50%

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, In Class.

Feedback

Students had a high number of assessment tasks from each of the units undertaken during Term 1 that was noted to be highly demanding.

Recommendation

While I do not have any control over assessment items in other units, an attempt will be made to spread the assessment load as able. The timing of the Written Assessment will likely be moved to earlier in the term. This may assist in easing the assessment load at the end of term, allow students to access greater feedback through the term and also allow marking time during a quieter period for staff to ensure prompt return of assignments.

Action

The submission date for the assignment was moved one week to avoid a clash with the submission date of an assignment from another unit.

Feedback from Have Your Say, In Class.

Feedback

Students would like to review their quizzes individually.

Recommendation

Staff are continuing to find a resolution to the quiz review problem which in previous years involved the issue of students taking screen shots of non-released examination material. There may be the potential for students to have a specified supervised time in a computer lab. If they are not using their personal computer or tablet, this could afford them the opportunity to review their quiz without being able to take and save screen shots.

Action

Students were given access to review their quiz results on a staff computer during an allocated tutorial. Group discussion of the quiz and answers was conducted in class time, and provided an opportunity for students to ask questions and reflect on their performance, and the coordinator to provide general informal feedback to the group.

Unit Learning Outcomes

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

1. Describe and analyse mechanical, physiological and anatomical concepts in the context of human physical performance.
2. Explain and interpret key biomechanical principles and relate these to human function, including gait and other functional activities.
3. Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity.
4. Recognise the scope of biomechanical principles in the management of patients.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Quiz(zes) - 30%	•	•		•
2 - Written Assessment - 20%	•	•		•
3 - On-campus Activity - 0%	•	•	•	•
4 - Practical Assessment - 50%	•	•	•	•

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 - Online Quiz(zes) - 30%	•	•	•	•		•	•	•		
2 - Written Assessment - 20%	•	•	•	•			•	•		
3 - On-campus Activity - 0%	•									
4 - Practical Assessment - 50%	•	•	•	•				•		

Textbooks and Resources

Textbooks

ALLH12008

Prescribed

Kinesiology of the musculoskeletal system: Foundations for rehabilitation

3rd Edition (2016)

Authors: Donald A. Neumann

Mosby Elsevier

St. Louis , Missouri , USA

ISBN: 9780323287531

Binding: Hardcover

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Supplementary

Neuromechanics of Human Movement

Edition: 4th edn (2008)

Authors: Enoka, RM

Human Kinetics

Champaign , IL , USA

ISBN: 9780736066792

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)

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

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to course, overview of assessment tasks. Introduction to biomechanical analysis. Introduction to problem solving and qualitative and quantitative analysis of movement.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Biomechanics of bone and cartilage. Structure, function and biomechanical principles of joints.

Neumann, D. A. (2017). *Kinesiology of the musculoskeletal system*. (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Biomechanics of skeletal muscle. Kinesiology of the hip. Osteology, arthrology, mechanics and pathomechanics.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Kinesiology of the knee. Osteology, arthrology, mechanics and pathomechanics. Body size: Effect of maturation, age.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Kinesiology of the ankle. Osteology, arthrology, mechanics and pathomechanics. Damage and wear of joints.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	Summative assessment: Online Quiz 1.

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Kinesiology of the foot. Osteology, arthrology, mechanics and pathomechanics. Gait: Kinesiology of walking, running, jumping.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Gait: Clinical gait presentations. Adaptability of the motor system: Acute adjustments, chronic adaptations; effects of age, immobilisation, exercise, injury.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Kinesiology of the axial skeleton. Osteology, arthrology, mechanics and pathomechanics.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	Summative assessment: Written Assessment submission.

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Posture: Stand, sit, lie, balance and postural control. Kinematics and kinetics of lifting, occupational health and safety.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Kinesiology of the shoulder. Osteology, arthrology, mechanics and pathomechanics. Biomechanics of throwing and swimming.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Kinesiology of the elbow and wrist. Osteology, arthrology, mechanics and pathomechanics. Kinesiology of the hand. Osteology, arthrology, mechanics and pathomechanics.	Neumann, D. A. (2017). <i>Kinesiology of the musculoskeletal system</i> . (3rd ed.). Missouri, St Louis: Mosby Elsevier. Refer to Moodle page for prescribed textbook chapters and additional resources.	Summative assessment: Online Quiz 2.

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Revision.	Refer to Moodle page for any additional resources.	

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
Revision and examination preparation.		Practical Assessment - may be scheduled within Week 1 or Week 2 of the CQUniversity Examination period. Have Your Say - Course Evaluation

Exam Week - 12 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
		Practical Assessment - may be scheduled within Week 1 or Week 2 of the CQUniversity Examination period. Have Your Say - Course Evaluation

Assessment Tasks

1 Online Quiz(zes)

Assessment Type

Online Quiz(zes)

Task Description**Online Quiz(zes) Information**

There are two online quizzes:

- **Quiz 1** (15%) will occur in Week 5. It will assess content from weeks 1-4.
- **Quiz 2** (15%) will occur in Week 11. It will assess content from weeks 1-10.

Both quizzes will consist of up to 20 questions and will have a time limit of 50 minutes. Questions may be randomly generated from a question bank so that the quizzes may appear differently for each student. Access to books, notes,

websites (other than the quiz) and the use of other electronic devices are prohibited during the quiz. Quiz 1 and Quiz 2 may be scheduled outside of regular timetabled sessions.

The quizzes will consist of some or all of these categories:

- Multiple choice questions.
- Fill in the missing word(s) questions.
- Questions relating to multimedia material (e.g. images, videos).
- Short answer questions.

Policies and Procedures

The CQUniversity *Assessment of Coursework Procedures* policy (for centrally timetabled examinations) applies to all assessment items in this unit.

Number of Quizzes

2

Frequency of Quizzes

Assessment Due Date

Quiz 1 in Week 5 and Quiz 2 in Week 11.

Return Date to Students

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

Weighting

30%

Assessment Criteria

Multiple choice, fill in the missing word(s) questions, questions relating to multimedia material (e.g. images, videos) and short answer questions will be marked numerically and awarded a percentage mark.

Referencing Style

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

Submission

Online

Submission Instructions

Students must submit this item to be eligible to pass the unit.

Learning Outcomes Assessed

- Describe and analyse mechanical, physiological and anatomical concepts in the context of human physical performance.
- Explain and interpret key biomechanical principles and relate these to human function, including gait and other functional activities.
- Recognise the scope of biomechanical principles in the management of patients.

Graduate Attributes

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

2 Written Assessment

Assessment Type

Written Assessment

Task Description

Written Assessment Information

The Written Assessment will investigate functional anatomy and biomechanical analysis in the clinical environment. Students will be provided with a number of clinical case scenarios, of which they will select one for their assessment task. For their chosen clinical presentation, students will outline a biomechanical analysis they view as important to

complete and discuss why this may be relevant to the presenting 'patient'. This will require them to describe the biomechanical analysis, address how they would perform it (within the clinical environment) and discuss its relevance to the 'patient' both in regards to assessment and determining appropriate treatment. This will be informed by evidence based practice and current literature.

The Written Assessment will be 1600 words, providing comprehensive but concise information. It will be submitted in Week 8.

Referencing will follow the APA format.

Policies and Procedures

The CQUniversity *Assessment of Coursework Procedures* policy (for centrally timetabled examinations) applies to all assessment items in this unit.

Assessment Due Date

The Written Assessment will be due for submission on Friday in Week 8 of Term 1.

Return Date to Students

Results and feedback will become available within two weeks of the assessment submission.

Weighting

20%

Assessment Criteria

Refer to the ALLH12008 Assessment Rubric Form: Written Assessment

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.

Referencing Style

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

Submission

Online

Submission Instructions

Students must submit this item to be eligible to pass the unit.

Learning Outcomes Assessed

- Describe and analyse mechanical, physiological and anatomical concepts in the context of human physical performance.
- Explain and interpret key biomechanical principles and relate these to human function, including gait and other functional activities.
- Recognise the scope of biomechanical principles in the management of patients.

Graduate Attributes

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

3 Hurdle

Assessment Type

On-campus Activity

Task Description

At least 85% attendance of tutorial/practical sessions is required for a PASS grade. This minimum attendance requirement of 85% is recommended by the Australian Physiotherapy Council for all tutorials and practical sessions. If there is a genuine reason for being absent, students need to inform the Unit Coordinator as soon as possible.

Policies and Procedures

The CQUniversity *Assessment of Coursework Procedures* policy (for centrally timetabled examinations) applies to all assessment items in this unit. The monitoring of attendance will take into consideration legitimate reasons for absence, as outlined in the aforementioned CQUniversity *Assessment of Coursework Procedures* policy, and these will not be counted as an absence for the purpose of this attendance requirement.

Assessment Due Date

End of Term 1.

Return Date to Students

End of Term 1.

Weighting

Pass/Fail

Minimum mark or grade

A PASS grade is required in order to pass this unit.

Assessment Criteria

No Assessment Criteria

Referencing Style

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

Submission

Offline

Submission Instructions

Students must complete this item to be eligible to pass the unit.

Learning Outcomes Assessed

- Describe and analyse mechanical, physiological and anatomical concepts in the context of human physical performance.
- Explain and interpret key biomechanical principles and relate these to human function, including gait and other functional activities.
- Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity.
- Recognise the scope of biomechanical principles in the management of patients.

Graduate Attributes

- Communication

4 Practical Assessment

Assessment Type

Practical Assessment

Task Description**Practical Assessment Information**

The Practical Assessment involves questions that may be based on anatomical models, images, videos and/or clinical scenarios. Questions will incorporate the theoretical foundation of biomechanical and functional anatomy concepts while analysing their relationship with clinical presentations. It will assess observational, practical, analytical, problem-solving and clinical reasoning skills.

The Practical Assessment is a closed book examination. Access to books, notes, websites (other than the examination) and the use of other electronic devices are prohibited during the examination.

Policies and Procedures

The CQUniversity *Assessment of Coursework Procedures* policy (for centrally timetabled examinations) applies to all assessment items in this unit.

Supplementary Assessments

As per the CQUniversity *Assessment of Coursework Procedures* policy, students will be notified regarding final unit grades, including the provision of Supplementary Assessments, prior to the official Certification of Grade date for Term 1. All Supplementary Assessments will be granted in accordance with the *Grades and Results Procedures* policy. Supplementary Assessments will be required to be completed within the two weeks following Certification of Grades.

Assessment Due Date

The Practical Assessment will take place during the CQUniversity Examination Period.

Return Date to Students

Results and feedback will become available with the official release of final unit grades, as determined by the CQUniversity Certification of Grades Term 1 date.

Weighting

50%

Minimum mark or grade

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

Assessment Criteria

Practical assessment questions will each be marked to provide a numerical score with students awarded an overall percentage mark.

Referencing Style

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

Submission

Offline Online

Submission Instructions

Students must submit this item to be eligible to pass the unit.

Learning Outcomes Assessed

- Describe and analyse mechanical, physiological and anatomical concepts in the context of human physical performance.
- Explain and interpret key biomechanical principles and relate these to human function, including gait and other functional activities.
- Perform a range of biomechanical assessments using quantitative measurement techniques, including assessment of their validity.
- Recognise the scope of biomechanical principles in the management of patients.

Graduate Attributes

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