



ESSC13007 *Functional Anatomy*

Term 3 - 2018

Profile information current as at 27/04/2024 07:05 pm

All details in this unit profile for ESSC13007 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

The development of foundation knowledge and competencies in functional anatomy complements previous anatomy units and provides the cornerstone to manual assessment of musculoskeletal conditions. This unit will provide students with a comprehensive knowledge necessary to identify the structural and functional requirements of the musculoskeletal system in relation to human motion for a variety of activities. The unit will involve a detailed understanding of the anatomy of the limbs and the functional principles underpinning limb movement including an understanding of the performance aspects of muscle, joints and the mechanics of movement. Students involved in various health related disciplines will gain knowledge in manual location and assessment of musculoskeletal structures as they apply to rehabilitation, exercise conditioning and general movement.

Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 10

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-requisite: BMSC11001 Human Body Systems 1 AND BMSC11002 Human Body Systems 2

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 3 - 2018

- Distance
- Mackay
- 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 Compulsory 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. **Written Assessment**

Weighting: 25%

2. **On-campus Activity**

Weighting: Pass/Fail

3. **Practical Assessment**

Weighting: 25%

4. **Examination**

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

Feedback

Students enjoyed the residential school which included hands-on activities to complete movement analyses and group work. Students would like to have more time to complete palpation activity and more examples of movement analyses.

Recommendation

The residential school will continue to include hands-on activities and group work. At present this residential school is scheduled for 1-day (8hrs) which limits the number of activities that can be completed and the time spent on each. Staff within Exercise and Sport Sciences will discuss whether the residential school for this unit needs to be extended for future offerings.

Feedback from Have Your Say and Staff Reflection

Feedback

The unit has a lot of basic anatomy information that is repetitive of other anatomy/physiology units taken within CG85 Exercise and Sport Science. More emphasis needs to be placed on the 'functional' anatomy aspect of the content.

Recommendation

Due to the sequencing of this unit relative to the anatomy/physiology units and the potential for a large time period between undertake these units, there is a need to provide some revision of basic anatomy before covering the functional anatomy content. Staff will evaluate how this can be delivered with a shorter time frame to allow for greater functional anatomy content.

Unit Learning Outcomes

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

1. Develop an understanding of the structure and function of the musculo-skeletal system in relation to human movement.
2. Identify and palpate the bones, bony landmarks, ligaments and muscles of the upper and lower limbs.
3. Analyse the relationship between muscle location and action as it applies to human motion

This unit is designed to encompass both theoretical and practical aspects of functional anatomy. The unit lectures will cover the advanced theoretical knowledge related to the subject matter. The practical laboratory/workshop sessions will then build on the theoretical knowledge gained during the lectures and allow students to gain experience in identifying, locating and assessing muscular actions across a range of movement activities. Assessments for this unit will be based on the development of a muscle portfolio and a practical video demonstration of a muscular assessment of movement. Students will also sit an examination of the theoretical knowledge gained about the musculo-skeletal system. The assessment pieces will allow students to gain a comprehensive knowledge necessary to identify the structural and functional requirements of the musculo-skeletal system

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Written Assessment - 25%	•	•	•
2 - Practical Assessment - 25%	•	•	•
3 - Examination - 50%	•	•	•
4 - On-campus Activity - 0%	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
1 - Communication	•	•	•
2 - Problem Solving	•	•	•
3 - Critical Thinking	•		•
4 - Information Literacy			•
5 - Team Work			
6 - Information Technology Competence		•	•
7 - Cross Cultural Competence	•		
8 - Ethical practice		•	
9 - Social Innovation			
10 - Aboriginal and Torres Strait Islander Cultures			

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 25%	•	•	•	•		•				
2 - Practical Assessment - 25%	•	•	•	•		•		•		
3 - Examination - 50%	•		•							
4 - On-campus Activity - 0%	•	•	•	•	•	•		•		

Textbooks and Resources

Textbooks

ESSC13007

Prescribed

Kinesiology of the Musculoskeletal System: Foundations of Rehabilitation

Edition: 3rd (2016)

Authors: Donald A. Neumann

Elsevier

St. Louis , Missouri , USA

ISBN: 9780323287531

Binding: Hardcover

Additional Textbook Information

An electronic version of this textbook is also available. Both options are available to purchase at the CQUniversity 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)
- Video/audio recording device (e.g. a android/iphone, tablet, Gopro or computer with a webcam)

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

Caitlin Hill Unit Coordinator

c.hill1@cqu.edu.au

Schedule

Week 1: Introduction to Functional Anatomy - 05 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Functional Anatomy	Chapter 1 - Getting Started	

Week 2: Joints and Muscles - 12 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
Basic Structure and Function of Joints and Muscles	Chapter 2 - Basic Structure and Function of the Joints	
	Chapter 3 - Muscle: The Ultimate Force Generator in the Body	

Week 3: The Trunk and Spine - 19 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
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The Trunk and Spine

Chapter 9 - Axial Skeleton: Osteology and Arthrology
 Chapter 10 - Axial Skeleton: Muscle and Joint Interactions
 Chapter 11 - Kinesiology of Mastication and Ventilation

Week 4: The Shoulder - 26 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
The Shoulder	Chapter 5 - Shoulder Complex	

Vacation Week - 03 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic

Week 5: The Pelvis and Hip - 10 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
The Pelvis and Hip	Chapter 12 - Hip	

Week 6: The Elbow, Wrist, and Hand - 17 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
The Elbow, Wrist, and Hand	Chapter 6 - Elbow and Forearm Complex Chapter 7 - Wrist Chapter 8 - Hand	Written Assessment Due: Week 6 Thursday (20 Dec 2018) 5:00 pm AEST

Week 7: The Knee, Ankle, and Foot - 31 Dec 2018

Module/Topic	Chapter	Events and Submissions/Topic
The Knee, Ankle, and Foot	Chapter 13 - Knee Chapter 14 - Ankle and Foot	Thursday 3 Jan 2019: Rockhampton Lab Block/Residential School Saturday 5 Jan 2019: Brisbane Residential School

Week 8: Movement Analysis for Activities of Daily Living - 07 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Analysis of Occupational and Daily Tasks	Online Resources	Monday 7 Jan 2019: Mackay Lab Block/Residential School

Week 9: Movement Analysis for Exercise - 14 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Analysis of Exercises	Online Resources	

Week 10: Movement Analysis of Sport Activities - 21 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Analysis of Sport Movements	Online Resources	

Week 11: Gait Analysis - 28 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Gait Analysis	Chapter 15 - Kinesiology of Walking	Practical Assessment Due: Week 11 Thursday (31 Jan 2019) 5:00 pm AEST

Week 12: Exam Preparation and Revision - 04 Feb 2019

Module/Topic	Chapter	Events and Submissions/Topic
Preparation for Upcoming Exam and Revision of Relevant Topics	Online Resources	

Exam Week - 11 Feb 2019

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

All students are required to attend a one (1) day practical lab session which will take place in:

- Rockhampton North Campus: Thursday 3 Jan 2019
- Brisbane Campus: Saturday 5 Jan 2019
- Mackay Campus: Monday 7 Jan 2019

Students are to confirm which session they will be attending via the link on Moodle by Friday of Week 2 (16 Nov 2018). Attendance and active participation at the residential school is compulsory and you cannot pass the unit without attending the residential school.

Assessment Tasks

1 Written Assessment

Assessment Type

Written Assessment

Task Description

The structure of muscles and joints is inherently linked with the function of the trunk and limbs. An example of this is seen in the trade-off between joint stability and mobility.

This assessment is related to the material covered in Week 1 to Week 5 (inclusive). There will be three parts to this question:

Part A: The trunk and spine

Part B: The shoulder

Part C: The pelvis and hip

Questions will be related to bone, muscle/joint anatomy, normal/abnormal human movement patterns, actions of joints/muscles, the effects of musculoskeletal conditions on movement, basic exercise prescription, and/or recommendations for improved movement efficiency.

Each part of the assessment is to be 300 to 400 words in length and you must use at least two peer-reviewed journal articles to support each answer. You may also include one (1) figure OR diagram OR table to support your answer. In-text referencing, and words in the figure, diagram, or table count towards your total word limit.

Questions will be made available via Moodle at the end of Week 1.

Assessment Due Date

Week 6 Thursday (20 Dec 2018) 5:00 pm AEST

Return Date to Students

Week 8 Thursday (10 Jan 2019)

Weighting

25%

Assessment Criteria

Grades for this assessment will be based on correctness of the answer; comprehension and use of supporting peer-reviewed journal articles; writing style (correct grammar, spelling, and reference formatting); and adherence to word count limits.

Referencing Style

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

Submission

Online

Submission Instructions

Your assessment is to be submitted as a Word file (.doc or .docx) via the Moodle online assignment upload link.

Learning Outcomes Assessed

- Develop an understanding of the structure and function of the musculo-skeletal system in relation to human movement.
- Identify and palpate the bones, bony landmarks, ligaments and muscles of the upper and lower limbs.
- Analyse the relationship between muscle location and action as it applies to human motion

Graduate Attributes

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

2 On-Campus Station-Based Exam

Assessment Type

On-campus Activity

Task Description

The structural anatomy of the human body underpins the performance of all human movement; thus, an understanding of the anatomy of the muscles and joints is fundamental to rehabilitation and sports performance. This assessment covers material from Week 1 to Week 7 (inclusive). In this practical station-based exam you will identify and describe anatomical structures of the musculoskeletal system for the trunk, upper quadrant, and lower quadrant on anatomical models, bones, and images.

The practical assessment is compulsory and you must achieve a minimum of 50% in order to pass the unit. Further details of the minimum pass requirement are in assessment criteria below. The station-based exam consists of approximately 25-30 stations set up around the room, each with one question. Some stations will have an identification-type question, while others may have a function-based question. After a set period of time, you will rotate to the next station and repeat this until you have been at all stations. There will be 1 student at each station at a time. You will be given an answer sheet on which to write your answers.

The practical assessment is closed book so the only things you will be allowed to have on you are pens (blue or black ink only), your answer sheet and ID (e.g. driver's license).

Structures will be tagged using pins or labels. Questions will cover the anatomy of muscles, bones and joints in the trunk, neck, back, and upper and lower limbs.

Assessment Due Date

The exam will be conducted during residential school (between 3rd to 7th Jan 2019)

Return Date to Students

The results will be made available once all students have completed the exam

Weighting

Pass/Fail

Minimum mark or grade

50%

Assessment Criteria

Answers will be assessed based on correctly identifying the structural and functional components of muscles, bones and joints in the trunk, neck, back, and upper and lower limbs. Partial marks may be awarded where appropriate. Minor spelling errors may be permitted as long as they do not alter the meaning of the word.

The station-based exam is a PASS/FAIL assessment; therefore, requires a minimum grade of 50% in order to achieve a PASS for the unit. If you do not achieve the minimum mark, you will be offered one (1) opportunity to re-sit incorrectly answered questions. This second attempt will take place during the residential school (e.g. during a break or free-work time).

Referencing Style

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

Submission

Offline

Submission Instructions

Immediately following the exam, you are to return your answer sheet to the examiner.

Learning Outcomes Assessed

- Develop an understanding of the structure and function of the musculo-skeletal system in relation to human movement.
- Identify and palpate the bones, bony landmarks, ligaments and muscles of the upper and lower limbs.

Graduate Attributes

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

3 Practical Assessment

Assessment Type

Practical Assessment

Task Description

Identifying sub-optimal movement patterns and their contributing factors is an important part of reducing injury risk and improving performance in sports and exercise. To accurately identify sub-optimal movements, a sound understanding of normal movement and the roles of various muscles and joints is required. Appropriate exercises are then often required to help an individual return to optimal movement and improve performance.

This assessment requires you to create an audiovisual presentation between 10 - 12 minutes duration. In the presentation you will identify and aim to correct a sub-optimal movement pattern. You will be provided with several videos on Moodle, each showing an individual simulating a movement with a common sub-optimal movement pattern.

To complete the assessment, you will be required to choose one (1) of the provided videos and record an audiovisual presentation which includes the following:

- 1) A description of the SUB-OPTIMAL movement pattern in one (1) of the videos provided on Moodle. Use supporting evidence to briefly explain why you consider this movement pattern to be sub-optimal.
- 2) Presentation of a complete movement analysis table for the OPTIMAL, or normal movement, which includes detailing movement name(s), plane of movement, joint action(s), muscle contraction type(s), prime mover(s), and muscle(s) involved. A template of the movement analysis table is provided on Moodle.
- 3) A description of one (1) possible muscle weakness that might contribute to the SUB-OPTIMAL movement you identified, and explanation of the role of that muscle in the OPTIMAL movement.
- 4) A rationale for one (1) exercise that you could provide to strengthen the muscle you identified as weak.
- 5) Video demonstration of you instructing a partner how to perform this exercise. Include in your demonstration:
 - a. The start and end position,
 - b. Instructions on how to complete the full exercise, including at least three (3) **succinct** verbal cues to ensure that your partner in the video can complete the exercise safely and effectively.Your total video should be between 10-12 minutes duration. Use supporting evidence (i.e. peer-reviewed journal articles) to justify your responses throughout your presentation.

Assessment Due Date

Week 11 Thursday (31 Jan 2019) 5:00 pm AEST

It is your responsibility to ensure that the video is submitted by the due date and time. Please ensure you allow adequate uploading time (several hours may be required for slower internet connections)

Return Date to Students

Exam Week Thursday (14 Feb 2019)

Weighting

25%

Assessment Criteria

You will be assessed on your ability to identify a sub-optimal movement pattern, completeness and accuracy of your movement analysis table, correctness of weak muscle, appropriateness of exercise prescription, clarity of exercise demonstration, and use of appropriate supporting evidence throughout your presentation. Marks will also be allocated to presentation style (including use of Powerpoint, use of video, adherence to the time limit, and use of voice and gesture).

Referencing Style

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

Submission

Online

Submission Instructions

You will be required to upload your video to Youtube (instructions will be provided on how to create a private upload link on Moodle). After checking that the sound and visual material are working correctly, copy the link to the title page of

your Powerpoint presentation (.ppt or .pptx) and upload the Powerpoint presentation to Moodle.

Learning Outcomes Assessed

- Develop an understanding of the structure and function of the musculo-skeletal system in relation to human movement.
- Identify and palpate the bones, bony landmarks, ligaments and muscles of the upper and lower limbs.
- Analyse the relationship between muscle location and action as it applies to human motion

Graduate Attributes

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

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

50%

Length

120 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