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The published on-line version of the Course Profile is the authoritative version and by the publication of the Course Profile on-line the University deems the student has been notified of and read the course requirements.

1. General Course Information

1.1 Course Details

| | |
|------------------------------|-----------------------------------------------|
| COURSE CODE | 1008AHS |
| COURSE TITLE | Introductory Biomechanics |
| ACADEMIC ORGANISATION | SHS School of Health Sciences and Social Work |
| TRIMESTER | Trimester 2 2023 |
| MODE | In Person |
| LEVEL | Undergraduate |
| LOCATION | Gold Coast, On Campus |
| CREDIT POINT VALUE | 10 |

Course Description:

Introductory Biomechanics is an introductory biomechanics course designed for exercise science and physiotherapy students. Prerequisite 1001AHS Foundations of Exercise and Sports Science

Assumed Background:

It is assumed student have a basic understanding of human musculoskeletal anatomy, human physiology, principles of exercise science, and rigid body physics. It is strongly suggested students successfully complete 1016MSC Anatomy & Physiology Systems 1 and 1001AHS Foundations of Exercise & Sports Science prior to enrolling in 1008AHS Introductory Biomechanics.

1.2 Course Introduction

Welcome to 1008AHS Introductory Biomechanics. This course is designed for exercise, sport, and rehabilitation sciences. The course is divided into 3 modules: 1) *Kinematics*, which focuses on describing movement without reference to the underlying causes, 2) *Kinetics*, which focuses on the effects of forces on the body and tissues, and 3) *Neuromechanics*, which focuses on relationships between muscle activations, kinematics, and kinetics.

Each module incorporates lecture-delivered content, practical laboratories, workshops, readings, and practice questions, all of which aim to develop your understanding of basic biomechanics, your ability to acquire and analyse biomechanical data, and problem-solving capacity.

Summary of face-to-face contact hours

Lecture: 3 hours per week for 12 weeks = 36 hours (non-compulsory, highly recommended). 2 hours of these 3 hours will be online, 1 hour per week has been scheduled to watch pre-recorded videos.

Laboratory: 2 hours per laboratory, 5 laboratories = 10 hours (compulsory, assessed via pre-lab online quiz).

Workshop: 1 hour each workshop, 12 workshops = 12 hours (non-compulsory, highly recommended).

Previous Student Feedback

Over the years, students have found this course to be engaging and concepts to be very interesting. To further improve upon these positive comments we have made the following changes to the course curriculum in response to student feedback :

Reduced number of assessments: In previous years students were required to submit a research assignment that required critical analysis of a biomechanics-related research article. This has been removed so that there are a total of 3 assessments.

Increased the frequency of workshops: During the 1-hour workshop we apply the concepts learnt from the lecturers and go through example problem-solving questions. Students in previous years have found these workshops very useful and have requested more of them throughout the semester. We have therefore increased the frequency of workshops from fortnightly to weekly.

1.3 Course Staff

Primary Convenor **Dr Jayishni Maharaj**

| | |
|---------------------|---------------------------------------------------------------------------------------------|
| PHONE | +61756780526 |
| EMAIL | j.maharaj@griffith.edu.au |
| CAMPUS | Gold Coast Campus |
| BUILDING | Clinical Science 1 (G02) |
| ROOM | 2.13 |
| CONSULTATION | Book a one or one meeting via this link . It can be via Teams or in person. |

1.4 Timetable

Timetables are available on [the Programs and Courses website](#).

NB: Details contained in this section of the course profile and section 4.1 Learning Activities are to be read in conjunction with the official class timetable. The published class timetable which is the authoritative source for timetabling information for all campuses can be located by clicking on the link above.

1.5 Lecture Capture

It is standard practice at Griffith University that lectures timetabled in lecture capture-enabled venues are recorded and made available to students on the relevant course site, in accordance with the University's [Lecture Capture Policy](#).

The lecture series delivered as part of this course will be recorded and accessible via the Learning@Griffith course site.

2. Aims, Outcomes & Graduate Attributes

2.1 Course Aims

The aims of Introductory Biomechanics are to provide you with:

- An engaging and coherent learning experience
- Timely and accurate assessment of your work
- Access to a suite of information data processing resources

All of which will facilitate your development of:

- A fundamental understanding of human biomechanics
- The ability to apply biomechanical problem-solving techniques to functional tasks
- The practical skills required to evaluate real-world tasks using biomechanical tools and techniques
- The ability to search, interpret, critically appraise, and synthesise biomechanics literature

2.2 Learning Outcomes

After successfully completing this course you should be able to:

- 1** Describe biomechanical principles and how they relate specifically to the analysis of various forms of human movement (e.g., walking, running, jumping, kicking and throwing) to demonstrate an understanding of: a) Movement analysis knowledge and skills. b) Scientific approaches to ascertaining the aetiology of injury and acute, chronic and complex conditions as they relate to movement. c) The physical effects of human interaction with equipment and the environment.
- 2** Apply the principles of the biomechanical analysis of human movement to activities of daily living across a broad range of populations.
- 3** Analyse biomechanical problems and develop and implement relevant intervention strategies to the movement context.
- 4** Explain and use analytic and numerical approaches to solving biomechanical problems, and understand differences and value associated with qualitative and quantitative approaches to analyse biomechanics problems.
- 5** Choose and apply appropriate communication to explain scientific data and movement techniques to clients and other professionals.
- 6** Demonstrate skills in critical evaluation of scientific literature and capability to communicate this evaluation in written form with appropriate format, language, and referencing standards.

2.3. Graduate Attributes

For further details on the Griffith Graduate please [click here](#)

Griffith University prepares influential graduates to be:

- [Knowledgeable and skilled, with critical judgement](#)
- [Effective communicators and collaborators](#)
- [Innovative, creative and entrepreneurial](#)
- [Socially responsible and engaged in their communities](#)
- [Culturally capable when working with First Australians](#)
- [Effective in culturally diverse and international environments](#)

This table demonstrates where each of the Griffith Graduate Attributes is taught, practised and assessed in this course.

For further details on the Griffith Graduate Attributes please refer to [The Griffith Graduate policy](#).

University wide attributes

| GRADUATE ATTRIBUTE | TAUGHT | PRACTISED | ASSESSED |
|----------------------------------------------------|--------|-----------|----------|
| Knowledgeable and skilled, with critical judgement | • | • | • |
| Effective communicators and collaborators | • | • | • |
| Innovative, creative and entrepreneurial | • | • | • |

Additional Course Information on Graduate Attributes

This course addresses the following Professional Attributes of an Accredited Exercise Scientist as per the Exercise and Sports Science Australia AES Professional Standards 2020:

2.2.1 Describe biomechanical principles and how they relate specifically to the analysis of various forms of human movement to demonstrate an understanding of:

2.2.1.1 Movement analysis knowledge and skills.

2.2.1.2 Scientific approaches to ascertaining the aetiology of injury and acute, chronic and complex conditions as they relate to movement.

2.2.1.3 The physical effects of human interaction with equipment and the environment.

2.2.2 Apply the principles of the biomechanical analysis of human movement to activities of daily living across a broad range of populations.

2.2.3 Analyse biomechanical problems and develop and implement relevant intervention strategies to the movement context.

2.2.4 Choose and interpret biomechanical measurements relevant to client’s needs.

2.2.5 Choose and apply appropriate communication to explain scientific data and movement techniques to clients and other professionals.

2.2.6 Identify specific aspects of movement patterns important for performance improvement and injury prevention.

3. Learning Resources

3.1 Required Resources

Details of your Required Learning Resources are available from the [Reading List](#).

3.2 Recommended Resources

Details of your Recommended Learning Resources are available from the [Reading List](#).

3.3 University Learning Resources

The University provides many facilities and support services to assist students in their studies. Links to information about University support resources that are available to students include:

Readings: From the reading list, students can access Required and Recommended Learning Resources through direct links to articles, ebooks, databases, websites, the Library catalogue and digitised readings in one convenient place. Students can also prioritise their readings, add personal study notes, and export citations.

Learning@Griffith: There is a dedicated page for this course at myGriffith.

Student Support: Provides a range of services to support students throughout their studies including personal support such as Counselling and Health Services; Academic support; and Financial and Welfare support.

Careers and Employment: The team provides Career Wellbeing, Career Planning and Decision Making, Finding Jobs, Skills Identification and Development, Graduate Employment Information, LinkedIn Profile Review, Interview Preparation, Online Psychometric and Aptitude Test Preparation, International Student Support, Disability Disclosure Strategies and Higher Degree Research (HDR) Career Consultations.

Library: The Library provides a wide range of quality client-focused services and programs to students, researchers and staff of the University. The Library works in collaboration with the academic community to achieve academic and research outcomes.

Student Computing: The University provides access to common use computing facilities for educational purposes.

[Griffith Information Technology Code of Practice.](#)

Academic Integrity Tutorial: This tutorial helps students to understand what academic integrity is and why it matters. You will be able to identify types of academic misconduct, understand what skills you will need in order to maintain academic integrity, and learn about the processes of referencing styles.

Academic Integrity Declaration

Breaches of academic integrity seriously compromise student learning, as well as the academic quality of the University’s programs. All breaches of academic integrity are taken seriously.

By enrolling in this course and submitting assessment, I agree that:

- I have read the [Institutional Framework for Promoting Academic Integrity among Students](#) and the [Student Academic Misconduct Policy](#).
 - Except where indicated through references/citations, all assessment submitted will be my own work, based on my personal study and/or research.
 - I will not collude with another student or person in the production of assessment in this course unless group work and collaboration is an expectation of the assessment item.
 - No assessment item has been submitted for assessment in any other course at Griffith, or at any other University or at any other time in the same course without the permission of the relevant Course Convenor.
 - I will not copy in part or in whole or otherwise plagiarise the work of other students and/or other persons.
 - I will not make any of my assessment in this course available to another student, without the permission of the Course Convenor.
 - In the case of online quizzes and examinations, I will only access the materials permitted in the exam instructions and limit my internet usage to what is needed to take the exam.
- I accept that should I be found to be in breach of the non-disclosure provision identified above, action will be taken under the [Student Academic Misconduct Policy](#). Penalties may include failing the course or exclusion from the University.
- I also **acknowledge** and agree that the course convenor may:
- Give access to assessment to another Griffith staff member for the purpose of marking.
 - Submit assessment items to a text-matching service. This web-based service will retain a copy of any assessment item for checking the work of other students but will not reproduce it in any form.
 - Use assessment items for the purposes of moderation, or as exemplars, according to University policies.

3.5 Other Learning Resources & Information

Further readings

Students wishing to reinforce/extend their understanding of biomechanics and/or obtain information relevant to specific applications are encouraged to access the 500+ biomechanics resources available via the Gold Coast campus library.

Key journals

While hundreds of different journals publish biomechanics-related research the following are dedicated to biomechanics and available in online format when logged in the Griffith University network.

- [Applied Bionics and Biomechanics](#)
- [Clinical Biomechanics](#)
- [Gait & Posture](#)
- [Journal of Biomechanics](#)
- [Journal of Electromyography and Kinesiology](#)
- [Sports Biomechanics](#)
- [Medicine & Science in Sports & Exercise](#)

4. Teaching & Learning Activities

4.1 Learning Activities

Lectures (online)

| Week Commencing | Activity | Learning Outcomes |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 17 Jul 23 | Kinematics (Lecture Series): Kinematics is the branch of biomechanics that focuses on describing movement. The lectures within this module will cover fundamental kinematics topics including linear and angular motion, analog-to-digital conversion, digital filtering, differentiation and integration, relative and absolute motion, push-like and throw-like movement patterns, qualitative and quantitative analyses, principles of performance and injury-risk assessment, and movement analysis instrumentation. Fundamental analytical problem-solving techniques to quantify movement will be introduced and applied to real-world movement tasks in areas of sport, exercise and rehabilitation. | 1, 2, 3, 5 |
| 21 Aug 23 | Kinetics (Lecture Series): Kinetics is the branch of biomechanics that focuses on the effects that forces have on biological systems. The lectures within this module will cover topics including: anthropometry, Newton's laws, statics and dynamics, ground reaction force, friction, centre of pressure, fluid resistance, impulse and momentum, work and energy approaches, angular momentum, load-deformation, stress-strain, free body diagrams, torque, mechanical advantage, muscle force, force measurement technologies, inertial forces and moment of inertia. Analytical approaches to quantify kinetic variables will be introduced and applied to a range of real-world tasks. The major types of instrumentation used to acquire kinetic data will be discussed. Applications of kinetic analyses from the exercise, sport and rehabilitation literature will also be discussed. | 1, 2, 3, 5 |
| 25 Sep 23 | Neuromechanics (Lecture Series): The predominant forces produced within a person are from skeletal muscle and thus the exercise scientist requires an understanding of the relationships between muscle activation, kinetics and kinematics. This course will cover fundamental topics in neuromechanics including activation-force, force-length, force-velocity relationships of muscles and the effects of training and fatigue on muscle force generation. Examples from the literature on the application of neuromechanics to investigate real-world tasks will be examined and some important recent advances and future directions will be discussed. | 1, 2, 3, 5 |

Laboratory classes

| Week Commencing | Activity | Learning Outcomes |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| 24 Jul 23 | Acquiring 2D kinematics (Laboratory): Through these laboratory activities, pre-laboratory quiz, and associated readings you will gain an understanding of fundamental videography concepts, and start to develop the practical skills required to collect two-dimensional video footage for kinematic analyses. | 1, 2, 3, 5 |
| 31 Jul 23 | Processing and interpreting 2D kinematics (Laboratory): Through these laboratory activities, pre-laboratory quiz, and associated readings you will acquire practical skills in using specialized software to process, analyse, and interpret two-dimensional video data from real-world activities. | 1, 2, 3, 5 |
| 11 Sep 23 | Centre of mass & moment of inertia: (Laboratory): Through these laboratory activities, pre-laboratory quiz, and associated readings your understanding of centre of mass, moment of inertia and angular momentum will be reinforced through engaging with practical activities. You will also develop practical skills in acquiring and processing data to calculate whole body centre of mass and segment moment of inertia. | 1, 2, 3, 5 |
| 18 Sep 23 | Ground reaction forces: (Laboratory): Through these laboratory activities, pre-laboratory quiz, and associated readings your understanding of the characteristics and causes of ground reaction forces during walking and running will be reinforced through practical activities performed on force plates. You will also gain practical experience in acquiring ground reaction forces and in assessing the effect of footwear and running styles on ground reaction force patterns. | 1, 2, 3, 5 |
| 2 Oct 23 | Electromyography (Laboratory): Through these laboratory activities, pre-laboratory quiz, and associated readings you will develop practical skills in the use of surface electromyography (EMG) to assess muscle activation. You will also will process and analyse real-world data to further develop understanding of 1) the relationships between EMG and force in an isometric contraction, 2) the relationship between EMG median frequency and fatigue, and 3) the effect of muscle length on EMG and force production. Monday 02.10.2023 is a public holiday. If you have a laboratory on this day, please attend a lab on another day to ensure you do not miss out. | 1, 2, 3, 5 |

Workshops

| Week Commencing | Activity | Learning Outcomes |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| | Generic skills workshop (Workshop): 12 x 1-hour workshops will be held throughout the trimester for the purpose of teaching biomechanical skills, as detailed below. Note: these tutorials can also be used to handle flow-over of lecture material. | |
| 17 Jul 23 - 13 Oct 23 | Week 1 - 4: Kinematics problem-solving and lecture content Week 5 - 10: Kinetics problem-solving and lecture content Week 10-11: Neuromechanics problem-solving and lecture content Week 12: Review for Exam | 1, 2, 3, 4, 5, 6 |

4.2 Other Teaching and Learning Activities Information

Please note that the course schedule may change due to factors such as university or government directives, availability of guest speakers, and student learning needs. Where possible, students will be advised in advance of any scheduling changes.

Rules

- Mobile phones must be switched to 'silent mode' before attending any classes in this course
- Practical laboratory classes are compulsory
- You may only attend the laboratory class that you are enrolled in unless you have approval from the Course Convenor. Approval will only be granted for dire medical situations
- Practical laboratory classes must be attended wearing clothing appropriate for the laboratory activity (e.g., sportswear, running shoes etc.). Bare feet, thongs and/or sandals are not acceptable. Occupational health and safety rules require your exclusion from laboratory classes if you fail to comply with the laboratory dress code requirements
- Treat laboratory equipment with care. Equipment used in laboratory classes is expensive and can be susceptible to damage. Responsible conduct is therefore expected at all times. Any damage or malfunction of equipment should be reported immediately. While we recognise that accidents and wear and tear are inevitable, damage resulting from intentional acts and/or negligence may result in you being invoiced for the repair or replacement of damaged equipment

Recommendations

- Attend and/or view all lectures on a regular basis
- Involve yourself as much as possible in practical laboratory classes
- Attempt practice questions on a regular basis and prior to viewing the solutions
- Read the prescribed readings on a regular basis
- Contact the Course Convenor as soon as possible if you are experiencing difficulties which may impact on your performance in the course

Absence from a laboratory class

Students who are unable to attend a laboratory class for reasons(s) outlined in Section 13 of the Griffith University [Examinations Timetabling Policy and Procedures](http://policies.griffith.edu.au/pdf/Examinations%20Timetabling%20Policy%20and%20Procedures.pdf) (<http://policies.griffith.edu.au/pdf/Examinations%20Timetabling%20Policy%20and%20Procedures.pdf>), are required to submit the following:

- discuss with course convenor whether and/or when they can complete the laboratory in another session. If this is not possible, they must complete:
- the *Practical Class Quiz* for the laboratory class that they missed
- provide a one-page summary (expressed in their own words) of a research article from either Journal of Biomechanics, Journal of Applied Biomechanics or Clinical Biomechanics that relates in some way to the topic of the laboratory activity they missed, together with a photocopy of the article
- provide written documentation that outlines the reason for missing the designated laboratory class (e.g., medical certificate, signed statutory declaration, letter from sporting body)

Unless otherwise arranged with the Course Convenor, all material should be submitted within two weeks of the laboratory class that was missed.

5. Assessment Plan

5.1 Assessment Summary

This is a summary of the assessment in the course. For detailed information on each assessment, see [5.2 Assessment Detail](#) below.

| ASSESSMENT TASK | DUE DATE | WEIGHTING | MARKED OUT OF | LEARNING OUTCOMES | MAXIMUM EXTENSION PERIOD |
|-------------------------------------------------------------------------------|---------------------------|-----------|---------------|-------------------|--------------------------|
| <i>Test or quiz</i> On-line pre-laboratory quiz (x5) | 17 Jul 23 - 6 Oct 23 | 30% | 25 marks (x5) | 1, 2, 3, 4, 5 | |
| <i>Exam - selected and constructed responses</i> Mid-trimester examination | 28 Aug 23 10:00 Online | 35% | 60 marks | 1, 2, 3, 4, 6 | |
| <i>Exam - selected and constructed responses</i> End of trimester Exam | Examination Period | 35% | 60 marks | 1, 2, 3, 4, 5 | |

5.2 Assessment Detail

Title: On-line pre-laboratory quiz (x5)

Type: Test or quiz

Learning Outcomes Assessed: 1, 2, 3, 4, 5

Due Date:

17 Jul 23 - 6 Oct 23

Weight: 30%

Marked out of: 25

Task Description:

There are a total 5 quizzes, one for each of the laboratories in the course. The quizzes will only be open for a week. They will open the Monday before the lab and closes Sunday 11:59 the week commencing of the lab. Students will be given 1 hour to complete the quiz.

Each quiz is composed of a series of multiple-choice questions, randomly selected from a question bank.

Students have two attempts to complete the quiz, and the highest of the two marks is taken as their nominal quiz grade.

Attendance at the physical laboratory is mandatory. If you attend the laboratory and are recorded as present, you will receive an attendance notation entered as a binary (1). This will be applied to your nominal quiz grade.

If you do not attend the physical laboratory, or if you attend late and do not get recorded as present, you will receive a binary 0, and this will null your nominal pre-laboratory quiz mark for that laboratory.

Criteria & Marking:

Online multiple choice quiz, where the answers to the questions are provided as feedback to the student after quiz is completed.

Re-attempt:

Each quiz may be attempted twice, with the higher of the two marks retained.

Submission: Via the 'Assignments' tool in Learning@Griffith. On-line

This assessment item:

- is a school based activity
 - is an individual activity
 - includes a self assessment activity
 - may be available for re-assessment (see conditions outlined under Re-attempt above)
-

Title: Mid-trimester examination

Type: Exam - selected and constructed responses

Learning Outcomes Assessed: 1, 2, 3, 4, 6

Due Date:

28 Aug 23 10:00 Online

Weight: 35%

Marked out of: 60

Duration: 120 minutes

Exam Type: Closed Book

Exam Format: Online (Non-ProctorU)

Task Description:

The mid-trimester examination will be conducted in Week 6. The examination will cover all course content (i.e., from lectures, laboratory classes, practice questions, and prescribed readings) the preceding weeks. The mid-trimester examination will consist of multiple-choice, short answer, and numerical problem-based questions.

Required materials: 2b pencil, eraser, and non-programmable calculator

Optional materials: English language dictionary and ruler.

Minimum font size: 10

Line spacing Single

Character spacing: Normal

Superscript and subscript character usage: limited to equations and units

Criteria & Marking:

Multiple choice questions

- Multiple choice questions will be worth 1 mark each and will consist of a brief statement and/or figure and several possible responses. There will be only one correct response per question.

Short answer questions

- Short answer questions will be marked in increments.
- Marks will be deducted for missing and/or incorrect information.

Problem-based questions

- Problem-based questions will be marked in increments.
- Marks will be awarded for both procedure and accuracy. Responses that demonstrate an appropriate problem-solving procedure, but fail to calculate a correct final answer due to minor error(s) will be awarded partial marks.

Submission: Via the 'Assignments' tool in Learning@Griffith.

This assessment item:

- is a school based activity
 - is an individual activity
 - does not include a self assessment activity
 - does not have a re-attempt provision
 - is a non-proctored examination
-

Title: End of trimester Exam

Type: Exam - selected and constructed responses

Learning Outcomes Assessed: 1, 2, 3, 4, 5

Due Date:

Examination Period

Weight: 35%

Marked out of: 60

Perusal: 10 minutes

Duration: 120 minutes

Exam Type: Closed Book

Exam Format: Online (Non-ProctorU)

Task Description:

The final examination will be conducted during the exam period. It will cover course content (i.e., from lectures, laboratory classes, practice questions, and prescribed readings) from the mid-trimester exam to the end of the course. The final examination will consist of multiple-choice, short answer, and problem-based questions.

Required materials: 2b pencil, eraser, and non-programmable calculator

Optional materials: English language dictionary, ruler.

Criteria & Marking:

Multiple choice questions

- Multiple choice questions will consist of a brief statement and/or figure, and several possible responses. There will be only one correct response per question.

Short answer questions

- Short answer questions will be marked in increments.
- Marks will be deducted for missing and/or incorrect information.

Problem-based questions

- Problem-based questions will be marked in increments.
- Marks will be awarded for both procedure and accuracy. Responses that demonstrate an appropriate problem-solving procedure, but fail to calculate a correct final answer due to minor error(s), will be awarded partial marks.
- Errors in accuracy do not carry forward, meaning that an accuracy error performed in the early stages of a solution, will only be penalised once, despite the fact that it will cause errors in subsequent calculations and the final solution.

This assessment item:

- is a centrally organised activity
- is an individual activity
- does not include a self assessment activity

5.3 Late Submission

For all courses (other than Honours Dissertation Courses): Refer to the [Assessment Procedure for Students](#).

For all Honours Dissertation courses: Enrolment in an Honours degree shall be cancelled and the candidature terminated if the candidate fails to lodge their Honours dissertation by the prescribed date including any approved extensions.

5.4 Other Assessment Information

Supplementary Assessment is available in this course.

Supplementary assessment may be awarded if you have submitted all the assessment requirements of the course, and you have received a grade of 3 or have achieved an overall percentage equivalent to the grade of 3 or higher, but you have not achieved a pass or the required minimum mark in one or more mandatory pass components of the course.

You are allowed one attempt at a supplementary assessment item per course per trimester. If you gain a pass mark for your supplementary assessment item, you will be awarded a grade of 4.

Where you do not achieve a pass mark for the supplementary assessment item, the original grade of 3 for the course will remain, except for courses using the Medical School grading basis where a non-graded fail (NGF) is awarded.

Please see the [Assessment Procedure for Students](#) for more information.

Final Grades

A student's final grade for this course will be based on the aggregation and weighting of marks across assessment, any mandatory pass components and grade cut-offs. Grade cut-offs can vary, so you will need to wait for the official release of grades to be sure of your grade for this course.

- This course is a graded course (i.e 7, 6, 5, 4, 3, 2, 1).

6. Policies & Guidelines

This section contains the details of and links to the most relevant policies and course guidelines. For further details on University Policies please visit the [Policy Library](#)

6.1 Assessment Related Policies and Guidelines

University Policies & Guidelines

The University's policies can be found in the [Griffith Policy Library](#).

Specific assessment policies include:

- [Assessment Policy](#)
- [Assessment Procedure for Students](#)

SHS School of Health Sciences and Social Work

Assessment Guidelines

The American Psychological Association Referencing Style (7th Edition) [APA 7] is the preferred standard for this course.

6.2 Other Policies and Guidelines

University Policies and Guidelines

Students are responsible for ensuring that they have read all sections of the Course Profile for the course/s in which they are enrolled in any enrolment period. The published online version of the Course Profile is the authoritative version and by the publication of the Course Profile online, the University deems the student has been notified of and read the course requirements. Variations to the Course Profile during the trimester of offer are not permitted except in exceptional circumstances and will be advised in writing to all enrolled students and via the *Learning@Griffith* website. Additional information regarding the content of this course may be published on the *Learning@Griffith* website.

Copyright matters

Copyright applies to all teaching materials and materials generated by students which substantially relate to Griffith University courses. *Students are warned against selling Griffith University teaching materials and their student notes online through commercial websites during and after their studies.* You will almost certainly be in breach of copyright law and Griffith's IT Code of Practice if you post these materials on the internet and commercial websites. Please refer to the [Copyright Guide for Students](#) for further information.

Health and Safety

Griffith University is committed to providing a safe work and study environment. However, all students, staff and visitors have an obligation to ensure the safety of themselves and those whose safety may be affected by their actions. Staff in control of learning activities will ensure as far as reasonably practical, that those activities are safe and that all safety obligations are being met. Students are required to comply with all safety instructions and are requested to report safety concerns to the University.

General health and safety information is available on the [Health, Safety and Wellbeing](#) website.

Other Key Student-Related Policies

All University policy documents are accessible to students via the [Griffith Policy Library](#). Links to key policy documents, in addition to those listed in 6.1 above, are included below for easy reference:

- [Student Communications Policy](#)
- [Health, Safety and Wellbeing Policy](#)
- [Student Administration Policy](#)
- [Student Charter](#)
- [Student Review and Appeals Policy](#)
- [Student Review and Appeals Procedures](#)
- [Student Complaints Policy](#)
- [Students with Disabilities Policy](#)

Learning Summary

Below is a table showing the relationship between the learning outcomes for this course, the learning activities used to develop each outcome and the assessment task used to assess each outcome.

Learning Outcomes

After successfully completing this course you should be able to:

- 1 Describe biomechanical principles and how they relate specifically to the analysis of various forms of human movement (e.g., walking, running, jumping, kicking and throwing) to demonstrate an understanding of: a) Movement analysis knowledge and skills. b) Scientific approaches to ascertaining the aetiology of injury and acute, chronic and complex conditions as they relate to movement. c) The physical effects of human interaction with equipment and the environment.
- 2 Apply the principles of the biomechanical analysis of human movement to activities of daily living across a broad range of populations.
- 3 Analyse biomechanical problems and develop and implement relevant intervention strategies to the movement context.
- 4 Explain and use analytic and numerical approaches to solving biomechanical problems, and understand differences and value associated with qualitative and quantitative approaches to analyse biomechanics problems.
- 5 Choose and apply appropriate communication to explain scientific data and movement techniques to clients and other professionals.
- 6 Demonstrate skills in critical evaluation of scientific literature and capability to communicate this evaluation in written form with appropriate format, language, and referencing standards.

Assessment & Learning Activities

| LEARNING ACTIVITIES | LEARNING OUTCOMES | | | | | |
|--------------------------------------------------------|-------------------|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Kinematics (Lecture Series) | ● | ● | ● | | ● | |
| Kinetics (Lecture Series) | ● | ● | ● | | ● | |
| Neuromechanics (Lecture Series) | ● | ● | ● | | ● | |
| Acquiring 2D kinematics (Laboratory) | ● | ● | ● | | ● | |
| Processing and interpreting 2D kinematics (Laboratory) | ● | ● | ● | | ● | |
| Centre of mass & moment of inertia: (Laboratory) | ● | ● | ● | | ● | |
| Ground reaction forces: (Laboratory) | ● | ● | ● | | ● | |
| Electromyography (Laboratory) | ● | ● | ● | | ● | |
| Generic skills workshop (Workshop) | ● | ● | ● | ● | ● | ● |
| ASSESSMENT TASKS | | | | | | |
| On-line pre-laboratory quiz | ● | ● | ● | ● | ● | |
| Mid-trimester examination | ● | ● | ● | ● | | ● |
| End of trimester Exam | ● | ● | ● | ● | ● | |

Graduate Attributes

For further details on the Griffith Graduate please [click here](#)

Griffith University prepares influential graduates to be:

- [Knowledgeable and skilled, with critical judgement](#)
- [Effective communicators and collaborators](#)
- [Innovative, creative and entrepreneurial](#)
- [Socially responsible and engaged in their communities](#)
- [Culturally capable when working with First Australians](#)
- [Effective in culturally diverse and international environments](#)

This table demonstrates where each of the Griffith Graduate Attributes is taught, practised and assessed in this course.

University wide attributes

| GRADUATE ATTRIBUTE | TAUGHT | PRACTISED | ASSESSED |
|----------------------------------------------------------------|--------|-----------|----------|
| Knowledgeable and skilled, with critical judgement | • | • | • |
| Effective communicators and collaborators | • | • | • |
| Innovative, creative and entrepreneurial | • | • | • |
| Socially responsible and engaged in their communities | | | |
| Culturally capable when working with First Australians | | | |
| Effective in culturally diverse and international environments | | | |