School of Medicine

MEDI222: Foundations of Biomechanics

Subject Outline
Autumn, 2016
On-Campus
Wollongong

Subject Information
Credit Points: 6
Pre-requisite(s): EDUP131 or SHS 111 or MEDI111
Co-requisite(s): Nil
Restrictions: Nil
Contact Hours: 2 hr Lecture, 2 hr Practical, 1 hr Tutorial per week

Subject Contacts
Subject Coordinator/Lecturer

<table>
<thead>
<tr>
<th>Name</th>
<th>Professor Julie Steele</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Building 41, Room 335</td>
</tr>
<tr>
<td>Telephone</td>
<td>61 2 4221 3498</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:julie_steele@uow.edu.au">julie_steele@uow.edu.au</a></td>
</tr>
<tr>
<td>Consultation mode and times:</td>
<td>Email for appointment</td>
</tr>
</tbody>
</table>

Student Support and Advice
For general enquiries please contact StudentHub 41:

<table>
<thead>
<tr>
<th>Location</th>
<th>41.138B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone</td>
<td>61 2 4221 3492</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:smah-students@uow.edu.au">smah-students@uow.edu.au</a></td>
</tr>
</tbody>
</table>
Student Consultation and Communication

University staff receive many emails each day. In order to enable them to respond to your emails appropriately and in a timely fashion, students are asked to observe basic requirements of professional communication:

**Please ensure that you include your full name and student number and identify your practical class or tutorial group in your email so that staff know who they are communicating with and can follow-up personally where appropriate.**

**Consider what the communication is about**
- Is your question addressed elsewhere (e.g. in the subject outline or, on the eLearning site)?
- Are you addressing your request to the most appropriate person?

**Specific email subject title to enable easy identification of issue**
- Identify the subject code of the subject you are enquiring about (as staff may be involved in more than one subject). Put this in the email subject heading. Add a brief, specific query reference after the subject code where appropriate.

**Professional courtesy**
- Address the staff member appropriately by name (and formal title if you do not yet know them).
- Use full words (avoid ‘text-speak’ abbreviations), correct grammar and correct spelling.
- Be respectful and courteous.
- Allow 3 – 4 working days for a response before following up.
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Section A: General Information

Subject Learning Outcomes

<table>
<thead>
<tr>
<th>On completion of this subject, students should be able to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Describe and explain basic biomechanical principles of motion</td>
</tr>
<tr>
<td>2. Demonstrate an understanding of subjective methods for analysing human motion.</td>
</tr>
</tbody>
</table>

Subject Description

This subject introduces fundamental biomechanical principles to provide a basis for understanding the causes and effects of human motion. The subject is an extension of the basic principles of human structure and function studied in Anatomy and Physiology and will include: (i) an introduction to analysis of movement; (ii) basic biomechanical principles of motion; and (iii) a subjective analysis of movement.

eLearning Space

This subject has materials and activities available via eLearning. To access eLearning you must have a UOW user account name and password, and be enrolled in the subject. eLearning is accessed via SOLS (student online services). Log on to SOLS and then click on the eLearning link in the menu column. For information regarding the eLearning spaces please use the following link:

http://uowblogs.com/moodlelab/files/2013/05/Moodle_StudentGuide-1petpo7.pdf

Lecture, Tutorial, Laboratory Times

All timetable information is subject to variation. Check the latest information on the university web timetable via the Timetable link on the Current Students webpage or log into SOLS to view your personal timetable prior to attending classes.


Timetable information can be accessed from

Key University Dates can be accessed from

Readings, References and Materials

Textbooks

The following text(s) will need to be purchased by students enrolled in this class.

Nil

Prescribed Readings (includes eReadings)

The following texts are prescribed for this subject, but students are not expected to purchase these. They are available to students through the library on the subject’s eLearning site.

Recommended Readings
The following references complement the prescribed readings and textbooks:


Recommended readings are not intended as an exhaustive list, students should use the Library catalogue and databases to locate additional resources.

Recent Changes to this Subject
Nil
## Timetable of Topics*

<table>
<thead>
<tr>
<th>Week</th>
<th>Week Commencing</th>
<th>Lecture 1</th>
<th>Lecture 2</th>
<th>Laboratory</th>
<th>Tutorial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>29/02/2016</td>
<td>Introduction to Biomechanics</td>
<td>Forms of Motion: Measuring Motion</td>
<td>NO LAB</td>
<td>NO TUTORIAL</td>
</tr>
<tr>
<td>2</td>
<td>07/03/2016</td>
<td>Concepts of Stability</td>
<td>Centre of Gravity &amp; Stability</td>
<td>NO TUTORIAL</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>14/03/2016</td>
<td>Force Production</td>
<td>Linear Kinematics (North Beach)</td>
<td>Finding Total Body COG</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>21/03/2016</td>
<td>Machines in the Body</td>
<td>Linear Momentum</td>
<td>NO LAB (Good Friday)</td>
<td>Review</td>
</tr>
<tr>
<td>5</td>
<td>28/03/2016</td>
<td>EASTER MONDAY (No Lecture)</td>
<td>Leverage &amp; the Body's Machines</td>
<td>NO TUTORIAL (Easter)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>04/04/2016</td>
<td>Linear &amp; Angular Momentum</td>
<td>Mechanics of Movement Skills</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>11/04/2016</td>
<td>QUIZ 1 (Group 1)</td>
<td>QUIZ 1 (Group 2)</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>18/04/2016</td>
<td>Fluid Mechanics</td>
<td>Motion in Fluids &amp; Flotation (URAC)</td>
<td>QUIZ REVIEW</td>
<td></td>
</tr>
</tbody>
</table>

**Mid-Session Recess**

<table>
<thead>
<tr>
<th>Week</th>
<th>Week Commencing</th>
<th>Lecture 1</th>
<th>Lecture 2</th>
<th>Laboratory</th>
<th>Tutorial</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>02/05/2016</td>
<td>Forces Opposing Motion</td>
<td>Impact &amp; Striking Implements</td>
<td>Rebound, Friction &amp; Impact</td>
<td>Review</td>
</tr>
<tr>
<td>10</td>
<td>09/05/2016</td>
<td>Projectile Motion</td>
<td>Work, Energy &amp; Power</td>
<td>Projectile Motion</td>
<td>Review</td>
</tr>
<tr>
<td>11</td>
<td>16/05/2016</td>
<td>QUIZ 2 (Group 1)</td>
<td>QUIZ 2 (Group 2)</td>
<td>NO LAB</td>
<td>Review</td>
</tr>
<tr>
<td>12</td>
<td>23/05/2016</td>
<td>Skill Analysis: Eyeballing &amp; Video</td>
<td>Subjective Analysis (URAC)</td>
<td>QUIZ REVIEW</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>30/05/2016</td>
<td>Applications of Biomechanics</td>
<td>NO LAB</td>
<td>Review/Revision</td>
<td></td>
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</tbody>
</table>

**Study Recess**

*The above timetable should be used as a guide only, as it is subject to change. Students will be advised of any changes as they become known.*
Section B: Assessment

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Form of Assessment</th>
<th>Due Date</th>
<th>Return/Feedback Due date</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1</td>
<td>Quiz 1</td>
<td>11/04/16</td>
<td>18/04/16</td>
<td>20%</td>
</tr>
<tr>
<td>Assessment 2</td>
<td>Quiz 2</td>
<td>16/05/16</td>
<td>23/05/16</td>
<td>25%</td>
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<tr>
<td>Assessment 3</td>
<td>Final Exam</td>
<td>During exam period</td>
<td>Release of results</td>
<td>55%</td>
</tr>
</tbody>
</table>

Total Marks 100%

Details of Assessment Tasks
Assessment tasks will be marked using explicit criteria that will be provided to students prior to submission.

Assessment 1: Quiz 1
- Due date: 11/04/16
- Weighting: 20%
- Submission: Exam papers and answers must be submitted at the conclusion of the exam.
- Type of Collaboration: Individual Assessment
- Length: 45 minutes
- Details: Quiz 1 will be made up of up to 25 multiple choice questions, which will examine material selected from lecture, tutorial and laboratory sessions that have been presented from Weeks 1 to 6. Students will record their responses on a paper-based answer sheet. Included in the laboratory manual is a selection of questions that have been designed to assist your understanding of the material covered within this subject. Although these questions are not marked, they will help you to prepare for Quiz 1 and so it is in your best interest to ensure they are completed satisfactorily.
- Style and format: In-class quiz
- Subject Learning Outcomes: 1, 2

Assessment 2: Quiz 2
- Due date: 16/05/16
- Weighting: 25%
- Submission: Exam papers and answers must be submitted at the conclusion of the exam.
- Type of Collaboration: Individual Assessment
- Length: 45 minutes
- Details: Quiz 2 will be made up of up to 25 multiple choice questions, which will examine material selected from lecture, tutorial and laboratory sessions that have been presented from Weeks 7 to 10. Students will record their responses on a paper-based answer sheet. Included in the laboratory manual is a selection of questions that have been designed to assist your understanding of the material covered within this subject. Although these questions are not marked, they will help you to prepare for Quiz 2 and so it is in your best interest to ensure they are completed satisfactorily.
- Style and format: In-class quiz
- Subject Learning Outcomes: 1, 2
Assessment 3

<table>
<thead>
<tr>
<th>Due date</th>
<th>Final Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighting</td>
<td>55%</td>
</tr>
<tr>
<td>Submission</td>
<td>Exam papers and answers must be submitted at the conclusion of the exam.</td>
</tr>
<tr>
<td>Type of Collaboration</td>
<td>Individual Assessment</td>
</tr>
<tr>
<td>Length</td>
<td>180 minutes</td>
</tr>
<tr>
<td>Details</td>
<td>The final examination will be made up of 100 multiple choice questions and one long answer question that will examine material selected from all lecture, tutorial and practical sessions that have been presented throughout the entirety of the course.</td>
</tr>
<tr>
<td>Style and format</td>
<td>Final Exam</td>
</tr>
<tr>
<td>Subject Learning Outcomes</td>
<td>1, 2</td>
</tr>
</tbody>
</table>

Minimum Requirements for a Pass in this Subject
To receive a clear pass in this subject a total mark of 50% or more must be achieved. In addition, failure to meet any of the minimum performance requirements is grounds for awarding a Technical Fail (TF) in the subject, even where total marks accumulated are greater than 50%.

The minimum performance requirements for this subject are:
- attempt all assessment tasks

Minimum Student Attendance and Participation
It is expected that students will allocate 12 hours per week to this subject, including any required class attendance, completion of prescribed readings and assessment tasks.

Student laboratory sessions are compulsory and students must attend at least 80% of laboratory classes. Absences will require the submission of an application for Academic Consideration via SOLS and the presentation of suitable documentation, for example a Medical Certificate, to Student Central as soon as practical. For further details about applying for academic consideration visit the Student Central webpage: [http://www.uow.edu.au/student/central/academicconsideration/index.html](http://www.uow.edu.au/student/central/academicconsideration/index.html)

Scaling
Scaling will not occur in this subject.

Late Submission
N/A as assessment tasks are all exam based.

Supplementary Assessments
Supplementary assessment may be offered to students whose performance in this subject is close to that required to pass the subject, and are otherwise identified as meriting an offer of a supplementary assessment. The precise form of supplementary assessment will be determined at the time the offer of a supplementary assessment is made.

Students can log on to SOLS and click on the link titled “Supplementary Assessment” to view any applicable offers or use the following link; [http://www.uow.edu.au/student/exams/suppassess/index.html](http://www.uow.edu.au/student/exams/suppassess/index.html)
System of Referencing Used for Written Work
As this subject utilises quiz and exam based assessments referencing is not required.

Use of Internet Sources
Students are able to use the Internet to access the most current information on relevant topics and information. Internet sources should only be used after careful critical analysis of the currency of the information, the role and standing of the sponsoring institution, reputation and credentials of the author, the clarity of the information and the extent to which the information can be supported or ratified by other authoritative sources.

Plagiarism
The full policy on Academic Integrity and Plagiarism is found in the Policy Directory on the UOW website.

“The University’s Academic Integrity and Plagiarism Policy, Faculty Handbooks and subject guides clearly set out the University’s expectation that students submit only their own original work for assessment and avoid plagiarising the work of others or cheating. Re-using any of your own work (either in part or in full) which you have submitted previously for assessment is not permitted without appropriate acknowledgement. Plagiarism can be detected and has led to students being expelled from the University.

The use by students of any website that provides access to essays or other assessment items (sometimes marketed as ‘resources’), is extremely unwise. Students who provide an assessment item (or provide access to an assessment item) to others, either directly or indirectly (for example by uploading an assessment item to a website) are considered by the university to be intentionally or recklessly helping other students to cheat. This is considered academic misconduct and students place themselves at risk of being expelled from the University.”

Submission of Assessments
As this subject utilises quiz and exam based assessments submission of assignments is not required.

Assessment Feedback
Feedback on your quizzes will be conducted during each “Quiz Review”, which are listed on the Timetable of Topics.
Section C: General Advice

Students should refer to the Faculty of Science, Medicine and Health website for information on policies, learning and support services and other general advice.

University Policies

Students should be familiar with the following University policies:

a. Code of Practice – Teaching and Assessment

b. Student Charter

c. Academic Integrity and Plagiarism Policy

d. Student Academic Consideration Policy

e. Course Progress Policy

f. Graduate Qualities Policy

g. Academic Complaints Policy (Coursework and Honours Students)

h. Policy and Guidelines on Non-Discriminatory Language Practice and Presentation

i. Intellectual Property Policy

Student Support Services and Facilities

Students can access information on student support services and facilities at the following link. This includes information on “Academic Support”, “Starting at University, “Help at University” as well as information and support on “Career’s and Jobs”. http://www.uow.edu.au/student/services/index.html

Student Etiquette

Guidelines on the use of email to contact teaching staff, mobile phone use in class and information on the university guide to eLearning ‘Netiquette’ can be found at http://www.uow.edu.au/student/elearning/netiquette/index.html

Version Control Table

<table>
<thead>
<tr>
<th>Version Control</th>
<th>Release Date</th>
<th>Author/Reviewer</th>
<th>Approved By</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20151214</td>
<td>Prof Julie Steele</td>
<td>Mrs Sonia Losinno – ADE Nominee</td>
<td>FINAL MEDI222 Autumn 2016 Subject Outline</td>
</tr>
</tbody>
</table>