

PDTY2103: Advanced Foot Anatomy and Biomechanics

Ourimbah

Semester 1 - 2024



OVERVIEW

Course Description	This course will provide a detailed coverage of the musculoskeletal, neurological and vascular anatomy of the lower limb. In addition it will cover the biomechanics of abnormal lower limb action and different approaches to gait analysis (including podiatric theories).
Academic Progress Requirements	This course is a compulsory program requirement for students in the following program(s): - Bachelor of Podiatry Failure or withdrawal from this course will result in students being considered under the Student Academic Progress Procedure.
Requisites	This course is only available to students enrolled in the Bachelor of Podiatry program. Pre-requisite - successful completion of PDTY1202 and HUBS1108
Assumed Knowledge	Year 1 of the Podiatry program
Contact Hours	Ourimbah Laboratory * Face to Face On Campus 27 hour(s) per term Biomechanical Laboratory for 2 Hours per Week for 8 Weeks, Anatomy Laboratory for 1 Hour per Week for 9 Weeks Lecture Face to Face On Campus 30 hour(s) per term 2 hours per week for 3 weeks and 3 hours per week for 8 weeks. Online 1 hour per term. Practical * Face to Face On Campus 2 hour(s) per term starting Week 1
Unit Weighting Workload	* This contact type has a compulsory requirement. 10 Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10 unit course.

COURSE OUTLINE

CONTACTS

Course Coordinator	Ourimbah Dr Antoni Fellas antoni.fellas@newcastle.edu.au Consultation: Via email, phone or in person. Please email Antoni to set-up a suitable appointment time.
Teaching Staff	Dr Zoe Yates will be teaching and directing the anatomy lectures and labs. zoe.yates@newcastle.edu.au
School Office	School of Health Sciences Room 302, ICT Building Callaghan SchoolHealthSciences@newcastle.edu.au +61 2 4921 7053

SYLLABUS

Course Content	<ol style="list-style-type: none">1. Foot and ankle anatomy.2. Lower limb anatomy.3. Gait analysis.4. Pathomechanics.5. Podiatric biomechanical theory.
Course Learning Outcomes	<p>On successful completion of this course, students will be able to:</p> <ol style="list-style-type: none">1. Understand the functional anatomy of the foot, ankle and lower limb.2. Understand the principles of clinical gait analysis and apply theoretical knowledge to a clinical setting.3. Perform a gait assessment including static and dynamic function and integrate clinical findings with theoretical biomechanical knowledge to formulate an appropriate management plan.4. Demonstrate an understanding of the evolution of podiatric biomechanics and current biomechanical theory.5. Demonstrate an appreciation of the growth and development podiatric biomechanics as a discipline area and in relation to clinical studies.6. Demonstrate detailed knowledge of structural and functional abnormalities of the lower limb which result in pathology.7. Demonstrate an ability to integrate theoretical knowledge of podiatric biomechanics and gait analysis into the clinical setting.
Course Materials	<p>This course is supported by the CANVAS site: https://canvas.newcastle.edu.au/courses/26296</p> <p>Recommended Text: Not required Some recommendations are listed below: Anatomy: - Gilroy A. Anatomy: An Essential Textbook. Thieme. - Drake, R.L., Vogl, W., Mitchell, A.D.M. Gray's Anatomy for Students. - Field and Hutchinson. Field's Lower Limb Anatomy, Palpation and Surface Markings. 2008 - Logan. McMinn's Colour Atlas of Foot and Ankle Anatomy. 3rd Edition. 2004.</p> <p>Biomechanics: - Oatis A. (2009) Kinesiology: The Mechanics and Pathomechanics of Human Movement.</p>

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- Valmassey, R.L. (1996) Clinical Biomechanics of the Lower Extremity. St Lois, CV Mosby -
 - Michaud, T. (2011) Human locomotion: the conservative management of gait-related disorders. Newton Biomechanics
 - Michaud, T. (1993) Foot orthoses and other forms of conservative foot care. Baltimore, Williams and Wilkins.

COMPULSORY REQUIREMENTS

In order to pass this course, each student must complete ALL of the following compulsory requirements:

Contact Hour Requirements:

- Laboratory attendance requirement: Students must have an overall laboratory attendance rate of at least 80%.

Course Assessment Requirements:

- To pass this course, you must achieve an overall mark of at least 50%.
- Assessment 4 - Online Learning Activity: Pass Requirement - Students must pass this assessment item to pass the course.

SCHEDULE

Week	Week Begins	Lectures Anatomy (A): Monday 2-3pm Biomechanics (B): Friday 11am-1pm	Labs (Friday) Anatomy (A): 9-10am or 10-11am Biomechanics (B): 1-3pm or 3-5pm
1	26 Feb	A: Introduction anatomy component (Online – Week 0). Mon 2-3pm A: Lower limb arteries & veins Fri 11-1pm B: Intro + Human gait cycle	A: Lower limb arteries & veins B: No lab
2	4 March	Mon 2-3pm A: Lower limb nerves Fri 11-1pm B: Biomechanical assessments; Human pathomechanics	A: Lower limb nerves B: Basic static assessment
3	11 Mar	Mon 2-3pm A: Subtalar & midtarsal joints Fri 11-1pm B: Subtalar biomechanics; Midtarsal biomechanics	A: Subtalar & midtarsal joints B: Rearfoot & subtalar assessment
4	18 Mar	Mon 2-3pm A: Forefoot anatomy Fri 11-1pm B: Forefoot biomechanics; Forefoot pathomechanics	A: Forefoot B: Midtarsal & forefoot assessment
5	25 Mar	Mon 2-3pm A: Ankle anatomy B: No Bio Lectures – Good Friday	A: No Lab – Good Friday B: No Lab – Good Friday
6	1 April	Mon 2-3pm A: No Lecture – Easter Monday Fri 11-1pm B: Ankle biomechanics and pathomechanics	A: Ankle Lab B: Ankle assessment
7	8 Apr	Mon 2-3pm A: Knee anatomy B: Knee biomechanics (Online) Fri 11-1pm: Mid-semester exam	A: Knee anatomy + Revision B: Knee & leg assessment
Mid-Term Break			
Mid-Term Break			
8	29 Apr	Mon 2-3pm A: Pelvis, hip & thigh anatomy Fri 11-1pm B: Hip biomechanics Self-guided: Foot posture index	A: Pelvis, hip & thigh B: Hip biomechanics, Foot Posture Index
9	6 May	Mon 2-3pm A: Lumbar spine & trunk anatomy Fri 11-1pm B: Pelvis/spine biomechanics; <i>exam feedback / Q&A</i>	A: Lumbar spine & trunk B: Limb length discrepancy / OSCE revision
10	13 May	Mon 2-3pm A: No lecture Fri 11-1pm B: Gait analysis	A: No Lab B: Visual gait analysis
11	20 May	Mon 2-3pm A: No lecture Self-guided: Running biomechanics Fri 11-1pm B: Biomechanical theory	A: Wet lab visit B: No Lab
12	27 May	Mon 2-3pm A: No lecture Fri 11-1pm B: Biomechanics review	A: No Lab B: No Lab

ASSESSMENTS

This course has 4 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Class Exam - Mid-semester	Week 7 - Friday 12 th April, during biomechanics lecture time.	Individual	20%	1, 2, 3, 4, 5, 6, 7
2	Oral Exam	Week 13 – Time and Date TBC	Individual	30%	1, 2, 3, 4, 5, 6, 7
3	Formal Exam	Formal exam period	Individual	50%	1, 2, 3, 4, 5, 6, 7
4	Online Learning*	Week 10 - Friday 17 th May, 5pm	Individual	Formative	7

* This assessment has a compulsory requirement.

Late Submissions

The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Reusing one's own work, or part thereof, that has been submitted previously and counted towards another course without permission from the relevant Course Coordinator and 2) making contact or colluding with another person, contrary to instructions, during an examination, in-term test, quiz or other individual assessment item are considered forms of Academic Fraud within the Student Academic Integrity Policy. This information is located in the policy glossary under academic fraud, the Academic Integrity Module and/or details in HLSC1000 content on Academic Integrity.

Assessment 1 - Class Exam - Mid-semester

Assessment Type	In Term Test
Description	A mid semester theory examination that will examine topics taught during the first 6 weeks of the semester (anatomy and biomechanics). The format for this exam will include short answer questions. Further information will be provided on the PDTY2103 CANVAS site.
Weighting	20%
Due Date	Friday 12 th April, during biomechanics lecture time.
Submission Method	In Class
Assessment Criteria	1-7
Return Method	Not Returned
Feedback Provided	Exam feedback will be provided in lecture time. Individual feedback can be provided by individual appointment with the course co-ordinator following the scheduled feedback session
Opportunity to Reattempt	Students will NOT be given the opportunity to reattempt this assessment item without successfully applying for consideration of Adverse Circumstances.

Assessment 2 - Oral Exam

Assessment Type	Observed Structure Clinical Exam (OSCE)
Description	An O.S.C.E. practical assessment covering all areas taught in both the Anatomy and Biomechanics sections of this course will be given. This assessment item has a focus on demonstration of clinical skills in anatomy and biomechanics but also includes theoretical material. Further information will be provided on the PDTY2103 CANVAS site.
Weighting	30%
Due Date	Week 13 (Time and date TBC)
Submission Method	School-based exam
Assessment Criteria	1-7
Return Method	Not Returned
Feedback Provided	Mark sheets will not be returned but may be viewed by individual appointment with the course coordinator.

Opportunity to reattempt Students will NOT be given the opportunity to reattempt this assessment item without successfully applying for consideration of Adverse Circumstances.

Assessment 3 - Formal Exam

Assessment Type Final Examination
Description This is a multiple-choice examination covering content from all components of this course.
Weighting 50%
Due Date Formal exam period
Submission Method Written exam.
Assessment Criteria 1-7
Return Method Not Returned
Feedback Provided Individual feedback can be provided by individual appointment with the course co-ordinator
Opportunity to reattempt Students will NOT be given the opportunity to reattempt this assessment item without successfully applying for consideration of Adverse Circumstances.

Assessment 4 - Online Learning

Assessment Type Online Learning Activity
Description This is an online research methods module which covers issues relevant to this course including ethics, and measurement reliability and validity. Completion of this module requires completion of quiz and short answer activities.
Weighting This is a formative assessment and will not contribute to your final grade.
Compulsory Requirements Pass Requirement - Students must pass this assessment item to pass the course. Failure to complete the module will result in a fail grade for this course.
Due Date Friday 17th May, 5pm
Submission Method Online via CANVAS
Assessment Criteria 7
Return Method Not Returned
Feedback Provided Immediate feedback is available via CANVAS for the quizzes.
Opportunity to Reattempt Only one attempt at remediation will be provided for this assessment item.

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Communication Methods	Communication methods used in this course include: <ul style="list-style-type: none">- Canvas Course Site: Students will receive communications via the posting of content on the Canvas course site.- Email: Students will receive communications via their student email account.- Face to Face: Communication will be provided via face-to-face meetings or supervision.
Course Evaluation	Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.
Oral Interviews (Vivas)	As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination (viva) Procedure . In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule .
Academic Misconduct	All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students of the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35 .
Adverse Circumstances	The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where: <ol style="list-style-type: none">1. the assessment item is a major assessment item; or2. the assessment item is a minor assessment item and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system;3. you are requesting a change of placement; or4. the course has a compulsory attendance requirement. Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at: https://policies.newcastle.edu.au/document/view-current.php?id=236
Important Policy Information	The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at https://www.newcastle.edu.au/current-students/respect-at-uni/policies-and-procedures that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified and an amended course outline will be provided in the same manner as the original.

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