

# REHA 2005 PATHOMECHANICS AND PODIATRIC MEDICINE

**Credit Points** 10

**Legacy Code** 401181

**Coordinator** Sean Sadler ([https://directory.westernsydney.edu.au/search/name/Sean Sadler/](https://directory.westernsydney.edu.au/search/name/Sean%20Sadler/))

**Description** This subject will introduce students to clinical/practical and theoretical foundations of human biomechanics of the foot and lower extremity, and the assessment, diagnosis and treatment of common foot and lower extremity pathologies. The subject consists of co-ordinated lectures and practical components to cover the theory and application of foot and lower extremity biomechanics and gait analysis, relevant physical examinations (bones, joints, soft tissues), diagnosing common foot and lower extremity conditions and related treatment options.

**School** Health Sciences

**Discipline** Podiatry

**Student Contribution Band** HECS Band 2 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Undergraduate Level 2 subject

**Pre-requisite(s)** NATS 1022 AND REHA 1003

**Co-requisite(s)** -

**Incompatible Subjects** -

**Restrictions**

The subject is Podiatry specific and restricted only to students enrolled in programs 4708 Bachelor of Podiatric Medicine and 4709 Bachelor of Podiatric Medicine (Honours).

**Assumed Knowledge**

Completion of all core subjects to this semester/ year of study is assumed knowledge

Anatomy is particularly important for the successful completion of this subject. An understanding of the structure and function of the lower extremity is needed as the focus of this subject is on pathologies of the foot and lower extremity and subsequent assessment, diagnosis and management.

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain lower back, pelvic, leg, and foot biomechanics in relation to normal and abnormal function in static and dynamic environments.
2. Safely apply relevant skills required for static and dynamic biomechanical assessment of pelvic, lower extremity, and foot structures.
3. Identify and describe the aetiology, pathophysiology, and clinical presentation of common musculoskeletal pathologies of the foot and lower extremity.

4. Employ an evidence-based approach to non-pharmacological and pharmacological management of common foot and lower extremity pathologies.
5. Describe and apply valid, reliable and appropriate health outcome measurement tools and technologies for diagnosis and management of lower extremity pathologies in different populations.

## Subject Content

### 1. Biomechanics of the lower extremity

- Anatomy of the lower extremity
- Planes and axis of motion
- Gait analysis – static and dynamic joint position and muscle activation
- Introduction to other gait analysis modalities such as pedar, force plate data collection and software analyses
- Comparison of walking and running patterns

### 2. Assessment of structural and functional abnormalities

- Biomechanical history taking
  - Clinical evaluation of bones, joints and soft tissues
- Introduction to basic examination of the hip, knee, leg, ankle and foot
- Intrinsic foot abnormalities – includes forefoot and rearfoot positions and their effects on function and consequent foot changes
- Extrinsic foot abnormalities – includes lower limb changes, leg length differences and their effects on function and consequent foot changes
- Review of health outcomes to assess and monitor the impact and progress of musculoskeletal pathology

### 3. Management for osseous, synovial and soft tissue pathologies

- Physiological theories of pain and pain management strategies
- Nerve entrapments
- Osseous and synovial pathologies such as fractures, digital deformities
- Soft tissue pathologies such as plantar fasciitis, muscle pathology, tendon pathology
- Principles for mechanical treatment – indications, contraindications, practical use of orthoses, footwear and electrophysical therapies
- Introduction to footwear mechanics and modifications

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Practical Exam	Up to 45 minutes	40	N	Individual	N
Intra-session Exam	60 minutes	30	N	Individual	N

Intra-session Exam	60 minutes 30	N	Individual	N
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Professional Task	Attendance S/U and participation at scheduled practical sessions throughout semester	Y	Individual	Y
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Teaching Periods

## 1st Half (2025)

### Campbelltown

#### On-site

**Subject Contact** Sean Sadler ([https://directory.westernsydney.edu.au/search/name/Sean Sadler/](https://directory.westernsydney.edu.au/search/name/Sean%20Sadler/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=REHA2005\\_25-1H\\_CA\\_1#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=REHA2005_25-1H_CA_1#subjects))