



# CHIR213

## Chiropractic Sciences 3

S1 Day 2019

*Dept of Chiropractic*

### Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	3
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	6
<u>Delivery and Resources</u>	8
<u>Unit Schedule</u>	9
<u>Learning and Teaching Activities</u>	11
<u>Policies and Procedures</u>	11
<u>Graduate Capabilities</u>	13

#### Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

## General Information

Unit convenor and teaching staff

Unit convenor

Michael Swain

[michael.swain@mq.edu.au](mailto:michael.swain@mq.edu.au)

Contact via +61-2-9850-4053

17 Wally's Walk 349 (C5C West)

By appointment

Tutor

Laura Montgomery

[laura.garnett@mq.edu.au](mailto:laura.garnett@mq.edu.au)

Tutor

Stephen Sharp

[stephen.sharp@mq.edu.au](mailto:stephen.sharp@mq.edu.au)

Lecturer

Andrei Zvyagin

[andrei.zvyagin@mq.edu.au](mailto:andrei.zvyagin@mq.edu.au)

Contact via +61-2-9850-7760

E7B-14 Sir Christopher Ondaatje Avenue 165

By appointment

Tutor

David McNaughton

[david.mcnaughton@mq.edu.au](mailto:david.mcnaughton@mq.edu.au)

Roger Engel

[roger.engel@mq.edu.au](mailto:roger.engel@mq.edu.au)

Credit points

3

Prerequisites

Admission to BChiroSc and (CHIR113 or CHIR103) and (CHIR114 or CHIR104)

Corequisites

Co-badged status

### Unit description

This unit provides an introduction to the fundamental principles of biomechanics and kinesiology. The focus of this unit will be the kinesiology of lumbar spine, pelvis and the lower extremity. This unit builds upon concepts in clinical anatomy taught in HLTH109. Reference is made to clinical biomechanics as it relates to the skills of observation, range of motion assessment, palpation, and muscle testing. Concepts in clinical decision making will be introduced. Chiropractic techniques of the lumbar spine and lower extremity will be introduced and developed.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

## Learning Outcomes

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

Demonstrate specific knowledge and skills that include: a. Biomechanics of the lumbar spine and lower extremities and how it applies to chiropractic technique; b. Identify and palpate surface landmarks on the axial and appendicular regions of the body; c. Strength testing of the major muscle groups of the lower extremity and; d. Chiropractic extremity techniques and the application of adjustments

Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.

Assess the lower extremity via basic orthopaedics methods

Clinically interpret the findings of basic orthopaedic assessment of the lower extremity

Knowledge, application, interpretation and communication of basic research methods

Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## General Assessment Information

### Participation Requirements

Tutorial class participation will be recorded and a minimum of 80% participation at chiropractic tutorial and physics practical classes is required in order to demonstrate that a serious attempt at completing this unit has been made. Students must attend the class in which you enrolled. Students must not exchange their class time. In special circumstances, students may apply for requests regarding changes. These requests are to be submitted to the unit convener.

## Examinations

Students are expected to present themselves for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

<https://iexams.mq.edu.au/timetable>

The only exception to not sitting an examination at the designated time is because of short-term, unexpected, serious and unavoidable circumstances. In these circumstances you may wish to consider applying for Special Consideration.

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the interval between the regular exam period and the start of the next session. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. You can check the supplementary exam information page on FSE101 in iLearn ([bit.ly/FSESupp](http://bit.ly/FSESupp)) for dates, and approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

Students with a pre-existing disability/health condition or prolonged adverse circumstances may be eligible for ongoing assistance and support. Such support is governed by other policies and may be sought and coordinated through [Campus Wellbeing and Support Services](#).

Students are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester that is the final day of the official examination period.

## Returning Assessment Tasks

**1. Research assignment:** A modified version of the assessment rubric will be returned to students with general feedback comments. This will be available on the units iLearn page

**2. Physics laboratory assessment:** Workbooks will be returned to students with performance comments

**3. Chiropractic technique Objective Structured Clinical Examination (OSCE):** Papers (and marks) will not be returned. Marks will be incorporated into the final unit grade. Feedback will be provided on request outside of the examination period.

**a. Feedback on Chiropractic Assessments (FoCA's)** will be incorporated in the unit to provide progress feedback in preparation to the OSCE.

**4. Final Examination:** Papers (and marks) will not be returned. Feedback will be provided on request outside the examination period. Marks will be incorporated into the final unit grade.

### Extensions and penalties

Extensions to assessments and assignments are at the discretion of the unit convener. It is the responsibility of the student to prove to the unit convener that there has been unavoidable disruption. Marks will be deducted for late submissions in the absence of an approved extension. For the Research Assignment marks will be deducted at the rate of 10% of the available marks per day.

### Grades

Achievement of grades will be based on the following criteria:

*High Distinction:* provides consistent evidence of deep and critical understanding in relation to the learning outcomes. There is substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critical evaluation of problems, their solutions and their implications; creativity in application.

*Distinction:* provides evidence of integration and evaluation of critical ideas, principles and theories, distinctive insight and ability in applying relevant skills and concepts in relation to learning outcomes. There is demonstration of frequent originality in defining and analysing issues or problems and providing solutions; and the use of means of communication appropriate to the discipline and the audience.

*Credit:* provides evidence of learning that goes beyond replication of content knowledge or skills relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.

*Pass:* provides sufficient evidence of the achievement of learning outcomes. There is demonstration of understanding and application of fundamental concepts of the field of study; and communication of information and ideas adequately in terms of the conventions of the discipline. The learning attainment is considered satisfactory or adequate or competent or capable in relation to the specified outcomes.

*Fail:* does not provide evidence of attainment of all learning outcomes. There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline. A fail grade will be awarded in the event of inadequate tutorial participation by the candidate, reflecting failure to complete the unit satisfactorily.

Sometimes it helps to 'translate' these descriptions into numbers. So, what we expect from you in this unit, in order for you to attain a specific grade, is outlined below:

Grade	
Incomplete	Failure to meet any of the assessment tasks

Fail	<50% and/or Failure to meet attendance or any of the participation requirements
Pass	50 – 64%
Credit	65 - 74%
Distinction	75 - 84%
High Distinction	85 - 100%

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Physics laboratory assessment</u>	10%	No	Weeks 2-4
<u>Research assignment</u>	20%	No	Week 8
<u>OSCE</u>	20%	No	Week 13
<u>Final Exam</u>	50%	No	Session 1 Examination Period

### Physics laboratory assessment

Due: **Weeks 2-4**

Weighting: **10%**

This will be based on student's laboratory participation and the level to which they achieve the aims/objectives of laboratory based tasks. The student's laboratory workbook will be reviewed as part of this assessment.

On successful completion you will be able to:

- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.
- Knowledge, application, interpretation and communication of basic research methods

### Research assignment

Due: **Week 8**

Weighting: **20%**

This is a research assignment which will be submitted electronically via *turnitin*. The objective of this assignment is to further develop student's research skills. It will take the form of a research report. In 1000 words candidates must report the prevalence of a specified musculoskeletal condition. Further details on this assignment can be found on the unit's iLearn page.

On successful completion you will be able to:

- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.
- Knowledge, application, interpretation and communication of basic research methods

## OSCE

Due: **Week 13**

Weighting: **20%**

Students will be assessed on their competency in performing chiropractic techniques. Peer review will be a component of this assessment. Students will demonstrate a series of chiropractic procedures taught in this unit.

On successful completion you will be able to:

- Demonstrate specific knowledge and skills that include: a. Biomechanics of the lumbar spine and lower extremities and how it applies to chiropractic technique; b. Identify and palpate surface landmarks on the axial and appendicular regions of the body; c. Strength testing of the major muscle groups of the lower extremity and; d. Chiropractic extremity techniques and the application of adjustments
- Assess the lower extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the lower extremity
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## Final Exam

Due: **Session 1 Examination Period**

Weighting: **50%**

This will cover the content of all material for the semester. It will test students' knowledge of the theory, and the ability to connect that knowledge to discipline specific situations. It will consist of a two (2) hour written exam.

On successful completion you will be able to:

- Demonstrate specific knowledge and skills that include: a. Biomechanics of the lumbar spine and lower extremities and how it applies to chiropractic technique; b. Identify and palpate surface landmarks on the axial and appendicular regions of the body; c. Strength testing of the major muscle groups of the lower extremity and; d. Chiropractic extremity techniques and the application of adjustments
- Analysis of the vectors associated with normal movement and connect the application of

those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.

- Clinically interpret the findings of basic orthopaedic assessment of the lower extremity
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## Delivery and Resources

### Delivery mode

This unit is characterised by a moderate degree of flexibility. It incorporates a variety of learning tools and media. It will comprise:

Name	Day	Start	Finish	Weeks	Location
CHIR213/S1/Day/Lecture_1/01	Tuesday	10:00am	12:00pm	9,13-15,18-23	23 Wallys Walk - T1 Theatre
CHIR213/S1/Day/Lecture_2/01	Thursday	1:00pm	3:00pm	<b>10-12</b>	23 Wallys Walk - T1 Theatre
CHIR213/S1/Day/SGTA_1/01	Tuesday	2:00pm	4:00pm	10-15,18-23	11 Wallys Wlk - 320 Chiro. North Lab
CHIR213/S1/Day/SGTA_1/02	Tuesday	4:00pm	6:00pm	10-15,18-23	11 Wallys Wlk - 320 Chiro. North Lab
CHIR213/S1/Day/SGTA_2/01	Thursday	1:00pm	3:00pm	10-15,18-23	11 Wallys Wlk - 320 Chiro. North Lab
CHIR213/S1/Day/SGTA_2/02	Thursday	3:00pm	5:00pm	10-15,18-23	11 Wallys Wlk - 320 Chiro. North Lab
CHIR213/S1/Day/SGTA_3/01	Friday	9:00am	11:00am	11-13	14 Sir Christopher Ondaatje Ave - 114 Physics Lab
CHIR213/S1/Day/SGTA_3/02	Friday	1:00pm	3:00pm	11-13	14 Sir Christopher Ondaatje Ave - 114 Physics Lab
CHIR213/S1/Day/SGTA_3/03	Friday	11:00am	1:00pm	11-13	14 Sir Christopher Ondaatje Ave - 114 Physics Lab

Further details on class time and locations for this unit can be found at: [Timetables@Macquarie Website](mailto:Timetables@Macquarie)

### Lectures

An interactive style of lecturing will be adopted. Candidates are expected to participate fully and interact where possible. Practical demonstration of concepts will occur at physics lectures. Participation at all lectures is strongly recommended.

### Tutorials/Practicals

Candidates must attend the tutorial/practical class in which they are enrolled. Candidates must not exchange their class time. In special circumstances, candidates may request a specific change. These requests are to be submitted to the unit convenor.

Students must wear closed-top shoes while attending physics practicals. No thongs or open-toed



sandals will be permitted.

Candidates are expected to participate fully and interactively in laboratories and tutorials. Lecture materials and tutorial outlines should be reviewed prior to practicals in order to best participate. Additionally, it is recommended that candidates practice the techniques acquired in this unit by implementing them under supervision in the University scheduled practice sessions.

### Participation Requirements

If a candidate misses an assigned tutorial in any week, they may request participation at an alternative session, through written request and appropriate documentation to the unit convenor.

### Unit Web Page

You can log onto iLearn at <https://ilearn.mq.edu.au/login/MQ/>

All lecture PowerPoint graphics will be posted on the unit web page, and there is also a link to iLectures for **audio and video (where available)** recordings of the lectures.

## Required and recommended resources

### Required:

1. [Oatis, Carol A. Kinesiology: The Mechanics and Pathomechanics of Human Movement 2nd ed. Baltimore : Lippincott Williams & Wilkins, 2009.](#)
2. [Hewitt, PG. Conceptual Physics 11<sup>th</sup> edition. Addison-Wesley/Pearson, 2010.](#)
3. Lecture and Tutorial notes [Available Online]: <https://ilearn.mq.edu.au/login/MQ/>

### Recommended:

- Neumann D.A. Kinesiology of the musculoskeletal system Foundations for rehabilitation, Elsevier 2010.
- Manual of Spinal Technique, Esposito & Philipson - 1st Ed. March 2005.
- Kendall, Et Al. Muscles: Testing and Function with Posture and Pain (CDrom). Lippincott Williams & Wilkins, 2010.
- Magee D.J. Orthopaedic Physical Assessment. 5<sup>th</sup> Edition. W.D Saunders, 2008.
- Haneline M.T. & Meeker W.C. Public Health for Chiropractors. Jones and Bartlett, 2011.

## Unit Schedule

### Chiropractic Sciences 3 Timetable:

Lecture location - 23 Wallys Walk - T1 Theatre

Lecture time - Tuesday 10am - 12pm (Note: Physics lectures will be held on Thursday at 1pm - 3pm in weeks 2, 3 and 4.

WEEK	LECTURE SCHEDULE	TUTORIAL SCHEDULE	TUTORIAL SCHEDULE
------	------------------	-------------------	-------------------

NUMBER	TUESDAY	TUESDAY	THURSDAY
<b>W1</b>	Introduction to Chiropractic Sciences 3  Introduction to biomechanical analysis  Structure and Function of the Lumbar spine  Mike Swain	No tutorial	No tutorial
<b>W2</b>	Conceptual Physics  Andrei Zvyagin	Lumbar spine observation, palpation and active movements	Physics Lab
<b>W3</b>	Conceptual Physics  Andrei Zvyagin	Lumbar spine passive movements, motion palpation and BLR setup	Physics Lab
<b>W4</b>	Conceptual Physics  Andrei Zvyagin	Lumbar spine motion palpation BLR setup and techniques  Case 1	Physics Lab
<b>W5</b>	Structure and Function of the Lumbar Spine/Pelvis  Mike Swain	SIJ motion palpation, BLR setup and sacral rocking  Case 2	Revision  Peer Review
<b>W6</b>	Hip: Structure and Function  Mike Swain	Hip observation, palpation, active/passive movements and functional assessment  Case 3	Motion palpation of the hip joint and chiropractic techniques  Peer Review
<b>W7</b>	Hip: Mechanics and Pathomechanics  Mike Swain	Hip resisted assessment and soft tissue techniques  Case 4	Hip joint chiropractic techniques  Peer Review
	MID-SEMESTER BREAK		
<b>W8</b>	Knee: Structure and Function  Mike Swain	Knee observation, palpation, active and resisted assessment  Case 5	Knee motion palpation and chiropractic technique  Peer Review
<b>W9</b>	Knee: Mechanics and Pathomechanics  Mike Swain	Patella motion palpation and soft-tissue release techniques  Case 6	Knee chiropractic techniques  Peer Review

<b>W10</b>	Ankle/Foot: Structure and Function  Mike Swain	Ankle observation, palpation, active and resisted movements  Ankle/Foot AROM  Case 7	Ankle motion palpation and chiropractic techniques  Peer Review
<b>W11</b>	Ankle/Foot: Mechanics and Pathomechanics  Mike Swain	Ankle/Foot passive movements and soft tissue techniques  Case 8	Foot motion palpation and chiropractic techniques  Peer Review
<b>W12</b>	Biomechanics of normal gait  Unit summary  Mike Swain	Foot and toes chiropractic techniques	Revision  Unit summary  Peer Review
<b>W13</b>		OSCE	

## Learning and Teaching Activities

### Lecture

An educational talk

### Tutorial

A period of instruction given in small groups where chiropractic skills will be developed

### Practical

A period of instruction given in small groups where concepts as they relate to physics will be explored

### Assignment

A written literature review where students will research one topic in chiropractic

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)

- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Undergraduate students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

## Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit [ask.mq.edu.au](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

## Learning Skills

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

## Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

## Student Enquiries

For all student enquiries, visit Student Connect at [ask.mq.edu.au](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## IT Help

For help with University computer systems and technology, visit [http://www.mq.edu.au/about\\_us/offices\\_and\\_units/information\\_technology/help/](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

## Graduate Capabilities

### Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

### Learning outcomes

- Demonstrate specific knowledge and skills that include: a. Biomechanics of the lumbar spine and lower extremities and how it applies to chiropractic technique; b. Identify and palpate surface landmarks on the axial and appendicular regions of the body; c. Strength testing of the major muscle groups of the lower extremity and; d. Chiropractic extremity techniques and the application of adjustments
- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.
- Assess the lower extremity via basic orthopaedics methods
- Knowledge, application, interpretation and communication of basic research methods

### Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

### Learning and teaching activities

- A period of instruction given in small groups where chiropractic skills will be developed

- A written literature review where students will research one topic in chiropractic

## Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

### Learning outcomes

- Clinically interpret the findings of basic orthopaedic assessment of the lower extremity
- Knowledge, application, interpretation and communication of basic research methods
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

### Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

### Learning and teaching activities

- A period of instruction given in small groups where chiropractic skills will be developed
- A period of instruction given in small groups where concepts as they relate to physics will be explored
- A written literature review where students will research one topic in chiropractic

## Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

### Learning outcomes

- Demonstrate specific knowledge and skills that include: a. Biomechanics of the lumbar spine and lower extremities and how it applies to chiropractic technique; b. Identify and palpate surface landmarks on the axial and appendicular regions of the body; c. Strength

testing of the major muscle groups of the lower extremity and; d. Chiropractic extremity techniques and the application of adjustments

- Knowledge, application, interpretation and communication of basic research methods
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## **Assessment tasks**

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

## **Learning and teaching activities**

- An educational talk
- A written literature review where students will research one topic in chiropractic

## **Discipline Specific Knowledge and Skills**

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

## **Learning outcomes**

- Demonstrate specific knowledge and skills that include: a. Biomechanics of the lumbar spine and lower extremities and how it applies to chiropractic technique; b. Identify and palpate surface landmarks on the axial and appendicular regions of the body; c. Strength testing of the major muscle groups of the lower extremity and; d. Chiropractic extremity techniques and the application of adjustments
- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.
- Assess the lower extremity via basic orthopaedics methods
- Knowledge, application, interpretation and communication of basic research methods

## Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

## Learning and teaching activities

- An educational talk
- A period of instruction given in small groups where chiropractic skills will be developed
- A written literature review where students will research one topic in chiropractic

## Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

## Learning outcomes

- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.
- Assess the lower extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the lower extremity
- Knowledge, application, interpretation and communication of basic research methods
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

## Learning and teaching activities

- An educational talk
- A period of instruction given in small groups where chiropractic skills will be developed



- A period of instruction given in small groups where concepts as they relate to physics will be explored
- A written literature review where students will research one topic in chiropractic

## Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

### Learning outcomes

- Assess the lower extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the lower extremity
- Knowledge, application, interpretation and communication of basic research methods
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

### Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

### Learning and teaching activities

- An educational talk
- A period of instruction given in small groups where chiropractic skills will be developed
- A period of instruction given in small groups where concepts as they relate to physics will be explored
- A written literature review where students will research one topic in chiropractic

## Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

## Learning outcomes

- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions. This includes to become familiar with the core concepts that underpin linear and rotational motion and relate these to rotation of joints.
- Assess the lower extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the lower extremity
- Knowledge, application, interpretation and communication of basic research methods

## Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

## Learning and teaching activities

- A period of instruction given in small groups where concepts as they relate to physics will be explored
- A written literature review where students will research one topic in chiropractic

## Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

## Learning outcomes

- Knowledge, application, interpretation and communication of basic research methods
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

## Learning and teaching activities

- A period of instruction given in small groups where chiropractic skills will be developed
- A written literature review where students will research one topic in chiropractic

## Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

## Learning outcomes

- Knowledge, application, interpretation and communication of basic research methods
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## Assessment tasks

- Physics laboratory assessment
- Research assignment
- OSCE
- Final Exam

## Learning and teaching activities

- A period of instruction given in small groups where chiropractic skills will be developed
- A written literature review where students will research one topic in chiropractic