



# CHIR214

## Chiropractic Sciences 4

S2 Day 2019

*Dept of Chiropractic*

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#### **Disclaimer**

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# General Information

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Credit points

3

Prerequisites

Admission to BChiroSc and (CHIR113 or CHIR103) and (CHIR114 or CHIR104) and (CHIR213 or CHIR201)

Corequisites

Co-badged status

### Unit description

This unit builds upon the principles of biomechanics and kinesiology taught in CHIR213 as well as concepts in clinical anatomy taught in HLTH109. The focus of this unit will be the kinesiology of thoracic cage and the upper extremity. 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 developed. Chiropractic techniques of the thoracic spine and upper 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:

Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).

Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)

Physically assess the upper extremity via basic orthopaedics methods

Clinically interpret the findings of basic orthopaedic assessment of the upper 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

### Overall

An aggregated total score (50/100 for all assessments) is required to complete the unit satisfactorily. Students are strongly encouraged to complete all assessment tasks and actively participate in tutorial and practical classes.

### Assignment

In the event of serious and unavoidable disruption to studies extensions are available via Special

Consideration request (ask@mq). The assignment will be submitted through iLearn and will be subject to electronic checking for plagiarism. Assignments will be marked online by tutors, against a standardised answer template. Late submission of the assignment will attract a mark deduction penalty of 10% for each day over the required submission date. Marked assignments will be returned to students with specific feedback and general comments. This will be available on the unit's iLearn page.

### Tutorials and Practicals

Ongoing opportunity for feedback will be incorporated into tutorial and practical classes. Practical workbooks will be returned to students with performance comments. Two Feedback on Chiropractic Assessments (FoCAs) will be conducted, with feedback delivered in written and verbal format.

### Examination(s)

The University Examination period for the Second Half Year 2019 is from Monday 11th to Friday 29th November. You are expected to present yourself 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.

<http://www.timetables.mq.edu.au/exam>

The only exception to not sitting an examination at the designated time is because of documented unexpected, serious and unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at Policy Central: <http://www.mq.edu.au/policy/>

If a supplementary examination is granted as a result of the special consideration process the examination will be scheduled after the conclusion of the official examination period. You 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.

In preparation of the final exam formative tasks are available in the form of past exam papers and online quiz questions. These are available via the unit's iLearn page.

## Assessment Tasks

| Name   | Weighting | Hurdle | Due                            |
|--|-----------|--------|--------------------------------|
| <a href="#"><u>Research assignment</u></a>           | 20%       | No     | 4th October at 9am             |
| <a href="#"><u>Physics laboratory assessment</u></a> | 8%        | No     | Weeks 5-7                      |
| <a href="#"><u>Physics in-class quiz</u></a>         | 5%        | No     | 30th September (Week 8) at 2pm |

| Name   | Weighting | Hurdle | Due                    |
|--|-----------|--------|------------------------|
| <a href="#">Chiropractic skills assessment</a> | 20%       | No     | 7th November (Week 13) |
| <a href="#">Final examination</a>              | 47%       | No     | Session 2 exam period  |

## Research assignment

Due: **4th October at 9am**

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 calculate and report the diagnostic accuracy of an orthopaedic test. Further details on this assignment can be found on the unit's iLearn page.

On successful completion you will be able to:

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Knowledge, application, interpretation and communication of basic research methods

## Physics laboratory assessment

Due: **Weeks 5-7**

Weighting: **8%**

The laboratory workbook assessment is based on student 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:

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)

## Physics in-class quiz

Due: **30th September (Week 8) at 2pm**

Weighting: **5%**

This in-class test will be based on content taught in the physics lecture stream (weeks 4, 6 and 7) and will take the form of a <30 minute in-class test.

On successful completion you will be able to:

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)

## Chiropractic skills assessment

Due: **7th November (Week 13)**

Weighting: **20%**

Students will be assessed on their competency in performing chiropractic skills. 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: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
- Physically assess the upper extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the upper extremity
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care



## Final examination

Due: **Session 2 exam period**

Weighting: **47%**

This written examination will test students' knowledge of material covered in Chiropractic Sciences 4. It will also test students' ability to connect theoretical knowledge to discipline specific situations. The format will consist of a two (2) hour written exam.

On successful completion you will be able to:

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
- Physically assess the upper extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the upper extremity
- Develop a respect and empathy for patients, and an ethical and professional attitude to health care

## Delivery and Resources

This unit is characterised by a moderate degree of flexibility. It incorporates a variety of learning tools and media. Further details on class time and locations for this unit can be found at: [http://students.mq.edu.au/student\\_admin/timetables](http://students.mq.edu.au/student_admin/timetables)

### 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.

Attendance at all lectures is strongly recommended.

### Tutorials/Practicals

Candidates must attend the tutorial class in which they are enrolled. In special circumstances, candidates may request a specific change. These requests are to be submitted to the unit convener.

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.

There will be one catch-up physics lab on Friday 27<sup>th</sup> September. Students that need/want to attend a catch-up lab should complete the missed lab form, which is available via the unit's iLearn page.

### **Attendance Requirements**

Student must attend 80% of chiropractic skills tutorials. If a candidate misses an assigned tutorial in any week, they may request attendance at an alternative session, through written request and appropriate documentation to the unit convener.

### **Unit Web Page**

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

All lecture slides will be posted on the iLearn Learning System, and there is also a link to echo360 for **audio-visual (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 12th edition. Harlow, Essex : Pearson Education Limited, 2015](#)
3. Tutorial notes [Available Online]: <https://ilearn.mq.edu.au/login/MQ/>

#### **Recommended:**

- Kendall, Et Al. Muscles: Testing and Function with Posture and Pain (CDrom). Lippincott Williams & Wilkins
- Manual of Spinal Technique, Esposito & Philipson - 1st Ed. March 2005
- Magee D.J. (2008). Orthopaedic Physical Assessment. 5<sup>th</sup> Edition. W.D Saunders, Philadelphia
- Hamill, Joseph. Biomechanical basis of human movement 3<sup>rd</sup> ed. Malvern, PA, Williams & Wilkins, 2009.
- Hoppenfeld. Physical Examination of Spine and Extremities. Appleton Lange.
- Webb, PW. Bain, CJ. and Pirozzo, SL. Essential Epidemiology: An Introduction for Students and Health Professionals Second Edition: Cambridge University Press

2011.Polgar & Thomas. Introduction to Research in the Health Sciences. Churchill Livingstone

- Leach. Chiropractic Theories – a Synopsis of Scientific Research. Williams & Wilkins

eReserve: [http://www.mq.edu.au/on\\_campus/library/research/e-reserve/](http://www.mq.edu.au/on_campus/library/research/e-reserve/)

## Unit Schedule

| WEEK   | LECTURE SCHEDULE (MONDAY)  | TUTORIAL SCHEDULE (TUESDAY)   | TUTORIAL SCHEDULE (THURSDAY)                                      |
|--|--|---|---|
| W1   | Introduction to Chiropractic Science 4. Research methods project with Mike Swain | No tutorial   | No tutorial   |
| W2   | Shoulder: kinesiology and biomechanics with Mike Swain                           | Surface palpation - shoulder region. Shoulder AROM Shoulder: Manual Muscle Testing. Case 1          | Shoulder PROM Glenohumeral Motion Palpation. Intro to peer review |
| W3   | Shoulder: pathomechanics with Mike Swain   | Glenohumeral Adjustments 1. Case 2  | Glenohumeral Adjustments 2. Peer review                           |
| W4   | Conceptual physics: Vibration, Waves and Sound with Deb Kane                     | FoCA #1. AC and SC Motion Palpation and Adjustments. Case 3   | Sternocostal Palpation and Adjustments. Peer Review               |
| W5   | (Online) Introduction to thoracic kinesiology and biomechanics with Mike Swain   | Thoracic AROM, PROM, Resisted assessment, Seated thoracic palpation. Case 4                         | Physics Lab   |
| W6   | Conceptual physics: Light, Colour and Optics with Deb Kane                       | Prone Thoracic Palpation and Springing Prone positioning, Carver Adjustment. Case 5                 | Physics Lab   |
| W7   | Conceptual physics: Atomic and Nuclear Physics with Deb Kane                     | Hypothenar Adjustment. Case 6   | Physics Lab   |
| <b>MID SEMESTER BREAK</b>                    |  |   |   |
| W8   | In-class Quiz. Elbow: kinesiology and biomechanics with Mike Swain               | Surface palpation - elbow region Elbow AROM Elbow: Manual Muscle Testing. Case 7                    | Elbow PROM Elbow Motion Palpation. Peer Review                    |
| W9   | Elbow: pathomechanics with Mike Swain  | Adjustments of the Elbow 2. Case 8  | Adjustments of the Elbow 1. Peer Review                           |
| W10  | Wrist/hand: kinesiology and biomechanics with Mike Swain                         | FoCA #2 Surface palpation of the wrist & hand Wrist & Hand AROM Wrist & Hand: Manual Muscle Testing | Wrist & Hand PROM Wrist & Hand Motion Palpation. Peer Review      |
| W11  | Forearm/wrist: pathomechanics with Mike Swain                                    | Adjustments of the Wrist. Case 9  | Adjustments of the Hand 1. Peer Review                            |
| W12  | Hand: Mechanics/pathomechanics and unit summary with Mike Swain                  | Adjustments of the Hand 2. Case 10  | Revision tutorial. Peer Review                                    |
| W13  |  |   | OSCE  |
| * (FoCA) Feedback on Chiropractic Assessment |  |   |   |

## 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 \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

## 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](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@mq.edu.au)

## 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.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption as per the Disruption to Studies Policy.

If a Supplementary Examination is granted as a result of the Disruption to studies process, the examination will be scheduled after the conclusion of the official examination period. The supplementary examination need not conform to the regular examination format. For example, it can be an oral (viva) examination rather than a written examination. Contact the Unit convenor or the Faculty Centre for the Supplementary exam dates.

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.

## 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

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Knowledge, application, interpretation and communication of basic research methods

## Assessment tasks

- Research assignment
- Physics laboratory assessment
- Final examination

## 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

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
- Physically assess the upper extremity via basic orthopaedics methods
- Clinically interpret the findings of basic orthopaedic assessment of the upper 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

- Research assignment

- Physics laboratory assessment
- Chiropractic skills assessment
- Final examination

## 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: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
- Knowledge, application, interpretation and communication of basic research methods

### Assessment tasks

- Research assignment
- Chiropractic skills assessment
- Final examination

## 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

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).

- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
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## Assessment tasks

- Research assignment
- Physics laboratory assessment
- Physics in-class quiz
- Chiropractic skills assessment
- Final examination

## 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

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
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## Assessment tasks

- Research assignment
- Physics laboratory assessment
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- Final examination

## 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

- Critical, analytical and integrative thinking as it relates to: (1) kinesiology of the upper extremity and thorax of the human body; (2) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics).
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
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- Physics in-class quiz
- Chiropractic skills assessment
- Final examination

## 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

- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (clinical assessment and management); (b) Biomechanics of the extremities and how it applies to chiropractic techniques; (c) Strength testing of the major muscle groups of the upper extremity; (d) Identification and palpation of surface landmarks on the axial and appendicular regions of the body; (e) conceptual physics (Vibration, Waves, Sound, Light, Colour, Optics. Atomic and Nuclear Physics)
- Physically assess the upper extremity via basic orthopaedics methods
- 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

- Research assignment
- Chiropractic skills assessment
- Final examination

## 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

- Research assignment
- Chiropractic skills assessment
- Final examination

## 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

- Research assignment
- Chiropractic skills assessment
- Final examination