



CHIR214

Chiropractic Sciences 4

S2 Day 2015

Dept of Chiropractic

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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

Lecturer

Michael Swain

michael.swain@mq.edu.au

Contact via Contact via Email

C5C 349

By appointment

Lecturer

Deb Kane

deb.kane@mq.edu.au

Contact via Contact via Email

E6B 2.701

By appointment

Tutor

Laura Garnett

laura.garnett@mq.edu.au

Contact via Contact via Email

C5C Level 3 West

By appointment

Tutor

Matthew Stevens

matthew.stevens@mq.edu.au

Contact via Contact via Email

C5C Level 3 West

By appointment

Tutor

Alison Griffiths

alison.griffiths@mq.edu.au

Contact via Contact via Email

C5C Level 3 West

By appointment

Tutor

David McNaughton

david.mcnaughton@mq.edu.au

Contact via Contact via Email

C3A

By appointment

Credit points 3
Prerequisites Admission to BChiroSc and (CHIR113(P) or CHIR103(P)) and (CHIR213(P) or CHIR201(P))
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

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

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

Chiropractic Science 4 requires satisfactory completion of both section of this unit. The first section is **Chiropractic principles and skills 2B**. The second section is **Biomechanics and**

Physics.

In order to pass Chiropractic Science 4 each student must satisfactorily complete (50% pass in raw marks) the following:

-Chiropractic principles and skills 2B

-Biomechanics and Physics

Tutorial class attendance will be recorded and **a minimum of 85% attendance at tutorial classes is required in order to successfully complete this unit.** Students must attend the class in which they are enrolled.

Assessment Tasks

Name	Weighting	Due
<u>Systematic review</u>	20%	28th September 2015 at 9am
<u>Physics Laboratory Assessment</u>	10%	Weeks 5-7
<u>Physics practice questions</u>	0%	Weeks 8
<u>Chiropractic Skills Assessment</u>	20%	3rd November 2015
<u>Final Examination</u>	50%	Session 2 Exam period

Systematic review

Due: **28th September 2015 at 9am**

Weighting: **20%**

This assignment requires students to conduct secondary research and disseminate their findings via written report. This assignment will require students to read and interpret scientific journal articles. In 1500 to 2500 words candidates must report biomechanical risk factors for a specified musculoskeletal condition. This assignment will be submitted electronically via turnitin. Further details on this assignment can be found on the unit's webpage.

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
- Knowledge, application, interpretation and communication of basic research methods

Physics Laboratory Assessment

Due: **Weeks 5-7**

Weighting: **10%**

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

Physics practice questions

Due: **Weeks 8**

Weighting: **0%**

Physics quiz questions will be posted on the online learning system (iLearn). Sample solutions will be provided after questions have been attempted. Students will be required to practice answering online physics questions to build conceptual understanding.

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

Chiropractic Skills Assessment

Due: **3rd November 2015**

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
- 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: **50%**

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
- 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
- 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

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.

Attendance

Requirements

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. 5th Edition. W.D Saunders, Philadelphia
- Hamill, Joseph. Biomechanical basis of human movement 3rd 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/

Unit Schedule

WEEK	LECTURE SCHEDULE (TUESDAY)	TUTORIAL SCHEDULE (TUESDAY)	TUTORIAL SCHEDULE (THURSDAY)
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W1	Introduction to Chiropractic Science 4. Research methods and 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	AC and SC Motion Palpation and Adjustments. Case 3	Sternocostal Palpation and Adjustments. Peer Review
W5	Conceptual physics: Light, Colour and Optics with Deb Kane	FoCA #1 Thoracic AROM, PROM, Resisted assessment, Seated thoracic palpation. Case 4	Physics Lab
W6	Introduction to thoracic kinesiology and biomechanics with Mike Swain	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
14 September - 25 September MID SEMESTER BREAK			
W8	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](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The*

Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student_conduct/

Results

Results shown in *iLearn*, 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.

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) 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

IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use 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
- Knowledge, application, interpretation and communication of basic research methods

Assessment tasks

- Systematic review
- Chiropractic Skills Assessment

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
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- 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

- Systematic review
- 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
- Knowledge, application, interpretation and communication of basic research methods

Assessment tasks

- Systematic review
- Physics practice questions

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
- 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
- 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

Assessment tasks

- Systematic review
- Physics Laboratory Assessment
- Physics practice questions
- 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
- 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
- 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

Assessment tasks

- Systematic review
- Physics Laboratory Assessment
- Physics practice questions
- Chiropractic Skills Assessment
- 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
- 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
- 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

Assessment tasks

- Systematic review
- Physics Laboratory Assessment
- Physics practice questions
- 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
- 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

- Systematic review
- 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 task

- Chiropractic Skills Assessment

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

- Systematic review
- Final Examination

Changes from Previous Offering

The assessment structure has been slightly modified to offer students greater opportunity to adopt autonomous learning methods. This includes the addition of practice online quiz questions. Students will be able to track their performance in the unit.

The unit schedule has been slightly modified to accommodate the delivery of materials by content experts

A required textbook has been updated to the most recent edition.