



CHIR214

Chiropractic Sciences 4

S2 Day 2014

Chiropractic

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General Information

Unit convenor and teaching staff

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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 kinesiology of the upper extremity and thorax of the human body

Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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

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 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 you enrolled.

Assessment Tasks

Name	Weighting	Due
<u>Systematic review</u>	20%	10 October 2014 at 9am
<u>Physics Laboratory Assessment</u>	10%	Weeks 5-7
<u>Chiropractic Skills Assessment</u>	20%	11 November 2014
<u>Final Examination</u>	50%	End of semester exam period

Systematic review

Due: **10 October 2014 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 kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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
- 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 kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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

Chiropractic Skills Assessment

Due: **11 November 2014**

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 (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
- 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: **End of semester 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:

- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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
- 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.

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: <https://ti>

metables.mq.edu.au/2012/Default.aspx

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. 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 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 PowerPoint graphics 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 2

nd ed. Baltimore : Lippincott Williams & Wilkins, 2009.

2. [Hewitt, PG. Conceptual physics 11th edition. Addison-Wesley/Pearson, 2010](#)
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.library.mq.edu.au/borrowing/ereserve.php>

Unit Schedule

WEEK	LECTURE SCHEDULE	TUTORIAL SCHEDULE	TUTORIAL SCHEDULE
NUMBER	TUESDAY	TUESDAY	THURSDAY
W1	Introduction to Chiropractic Science 4 Research methods and project Michael Swain	No tutorial	No tutorial
W2	Shoulder: kinesiology and biomechanics Michael 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 Michael Swain	Glenohumeral Adjustments 1 Case 2	Glenohumeral Adjustments 2 peer review
W4	Introduction to thoracic kinesiology and biomechanics Michael Swain	AC and SC Motion Palpation and Adjustments Case 3	Sternocostal Palpation and Adjustments Peer Review
W5	Conceptual Physics 4 Mick Withford	FoCA #1 Thoracic AROM, PROM, Resisted assessment Seated Thoracic Palpation Case 4	Physics Lab

W6	Conceptual Physics 5 Mick Withford	Prone Thoracic Palpation and Springing Prone positioning Carver Adjustment Case 5	Physics Lab
W7	Conceptual Physics 6 Mick Withford	Hypothenar Adjustment Case 6	Physics Lab
22 September - 3 October MID SEMESTER BREAK			
W8	Elbow: kinesiology and biomechanics Michael Swain	Surface palpation - elbow region Elbow AROM Elbow: Manual Muscle Testing Case 7	Elbow PROM Elbow Motion Palpation Peer Review
W9	Elbow: pathomechanics Michael Swain	Adjustments of the Elbow Case 8	Adjustments of the Elbow Peer Review
W10	Wrist/hand: kinesiology and biomechanics Michael 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 Michael Swain	Adjustments of the Wrist & Hand Case 9	Adjustments of the Wrist & Hand Peer Review
W12	Hand: Mechanics/pathomechanics Unit summary Michael Swain	Adjustments of the Wrist & Hand Case 10	Cervical Palpation Peer Review
W13 - Mon		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/

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

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 kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques

(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

- 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.

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

- Critical, analytical and integrative thinking as it relates to kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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
- Knowledge, application, interpretation and communication of basic research methods

Assessment task

- Systematic review

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 kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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
- 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

- Physics Laboratory Assessment
- 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 kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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
- Clinically interpret the findings of basic orthopaedic assessment of the upper extremity

Assessment tasks

- Systematic review
- Physics Laboratory Assessment
- 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 kinesiology of the upper extremity and thorax of the human body
- Demonstrate specific knowledge and skills: (a) Chiropractic extremity techniques (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
- 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
- Chiropractic Skills Assessment
- Final Examination

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

- 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
- 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 (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
- 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

- Systematic review
- Physics Laboratory Assessment
- 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 outcome

- 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 outcome

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

Assessment task

- Systematic review