



CHIR213

Chiropractic Sciences 3

S1 Day 2014

Chiropractic

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General Information

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Credit points

3

Prerequisites

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

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

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

Name	Weighting	Due
<u>Research assignment</u>	20%	Friday 2nd May 2014 at 9am
<u>Physics laboratory assessment</u>	10%	27th March 2014
<u>OSCE</u>	20%	10th June 2014
<u>Final Exam</u>	50%	Session 1 Examination Period

Research assignment

Due: **Friday 2nd May 2014 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 structured review of the literature. In 1500 to 2500 words candidates must report the prevalence of a specified musculoskeletal condition. All assignments will be published with the author's name, for peer review, on the unit's iLearn page. 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
- Knowledge, application, interpretation and communication of basic research methods

Physics laboratory assessment

Due: **27th March 2014**

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

OSCE

Due: **10th June 2014**

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
- 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	Location
Lecture_1/01	Tuesday	11:00am	1:00pm	E7B T2 Theatre
Tutorial_1/01	Tuesday	2:00pm	4:00pm	E5A 320 Chiro. North Lab

Tutorial_1/02	Tuesday	4:00pm	6:00pm	E5A 320 Chiro. North Lab
Tutorial_2/01	Thursday	1:00pm	3:00pm	E5A 320 Chiro. North Lab
Tutorial_2/02	Thursday	3:00pm	5:00pm	E5A 320 Chiro. North Lab
Tutorial_3/01	Thursday	10:00am	12:00pm	E7B 114 Physics Lab
Tutorial_3/02	Thursday	1:00pm	3:00pm	E7B 114 Physics Lab
Tutorial_3/03	Thursday	3:00pm	5:00pm	E7B 114 Physics Lab

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

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/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 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.

Tutorial class attendance will be recorded and **a minimum of 80% attendance at chiropractic tutorial and physics practical classes is required in order to successfully complete this unit.**

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 11th 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. 5th Edition. W.D Saunders, 2008.
- Haneline M.T. & Meeker W.C. Public Health for Chiropractors. Jones and Bartlett, 2011.

eReserve: <http://www.library.mq.edu.au/borrowing/ereserve.php>

Changes made to previous offerings in this unit

The format of this unit has been slightly changed to incorporate a view of teaching based on social constructivism in that it is much more structured, and provided through lectures that run in tandem with the tutorials.

The assessment structure has been slightly modified to offer students greater opportunity to adopt autonomous learning methods. Students will be able to track their performance in the unit.

Unit Schedule

CHIROPRACTIC SCIENCES 3 Timetable:

WEEK	LECTURE SCHEDULE	TUTORIAL SCHEDULE	TUTORIAL SCHEDULE
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NUMBER	TUESDAY	TUESDAY	THURSDAY
W1	<p>Introduction to Chiropractic Sciences 3</p> <p>Introduction to biomechanical analysis</p> <p>Structure and Function of the Lumbar spine</p> <p>Michael Swain</p>	No tutorial	No tutorial
W2	<p>Conceptual Physics 1</p> <p>Judith Dawes</p>	Lumbar spine observation, palpation and active movements	Physics Lab
W3	<p>Conceptual Physics 2</p> <p>Judith Dawes</p>	Lumbar spine passive movements, motion palpation and BLR setup	Physics Lab
W4	<p>Conceptual Physics 3</p> <p>Judith Dawes</p>	<p>Lumbar spine motion palpation BLR setup and techniques</p> <p>Case 1</p>	Physics Lab
W5	<p>Structure and Function of the Lumbar Spine/Pelvis</p> <p>Michael Swain</p>	<p>SIJ motion palpation, BLR setup and sacral rocking</p> <p>Case 2</p>	<p>Revision</p> <p>FoCA#1</p> <p>Peer Review</p>
W6	<p>Hip: Structure and Function</p> <p>Michael Swain</p>	<p>Hip observation, palpation, active/passive movements and functional assessment</p> <p>Case 3</p>	<p>Motion palpation of the hip joint and chiropractic techniques</p> <p>Peer Review</p>
W7	<p>Hip: Mechanics and Pathomechanics</p> <p>Michael Swain</p>	<p>Hip resisted assessment and soft tissue techniques</p> <p>Case 4</p>	<p>Hip joint chiropractic techniques</p> <p>Peer Review</p>
14 April - 25 April	MID SEMESTER BREAK		

W8 29-Apr	Knee: Structure and Function Michael Swain	Knee observation, palpation, active and resisted assessment Case 5	Knee motion palpation and chiropractic technique Peer Review
W9	Knee: Mechanics and Pathomechanics Michael Swain	Patella motion palpation and soft-tissue release techniques Case 6	Knee chiropractic techniques Peer Review
W10	Ankle/Foot: Structure and Function Michael Swain	Ankle observation, palpation, active and resisted movements Ankle/Foot AROM Case 7	FoCA #2 Ankle motion palpation and chiropractic techniques Peer Review
W11	Ankle/Foot: Mechanics and Pathomechanics Michael Swain	Ankle/Foot passive movements and soft tissue techniques Case 8	Foot motion palpation and chiropractic techniques Peer Review
W12	Biomechanics of normal gait Unit summary Michael Swain	Foot and toes chiropractic techniques	Revision Unit summary Peer Review
W13		OSCE	
* (FoCA) Feedback on Chiropractic Assessment			

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](#). 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

- 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 task

- Final Exam

Learning and teaching activity

- 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

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 task

- Research assignment

Learning and teaching activity

- 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

- Assess the lower extremity via basic orthopaedics methods
- Knowledge, application, interpretation and communication of basic research methods

Assessment tasks

- Research assignment
- Physics laboratory assessment
- 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

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
- 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

- Research assignment
- Physics laboratory assessment
- 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

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

- Analysis of the vectors associated with normal movement and connect the application of those vectors to aberrant joint motions
- 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

- Research assignment
- Physics laboratory assessment
- 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

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
- Assess the lower extremity via basic orthopaedics methods
- Knowledge, application, interpretation and communication of basic research methods

Assessment tasks

- Research assignment
- Physics laboratory assessment
- 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
- 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

- Research assignment
- Physics laboratory assessment
- 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

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

- OSCE

Learning and teaching activity

- 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 task

- OSCE

Learning and teaching activity

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