



# CHIR113

## Chiropractic Sciences 1

S1 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

Unit Convenor

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Lecturer (physics)

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By appointment

Rich Mildren

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Credit points

3

Prerequisites

Admission to BChiroSc

Corequisites

HLTH108 or HLTH107

Co-badged status

Unit description

This unit offers an introduction to the philosophy, art and science of chiropractic. History and founding principles are discussed. The concepts and role of philosophy and critical thinking are presented. Chiropractic terminology is introduced while a basic level of psychomotor skills are developed through motion palpation, muscle assessment and soft tissue techniques. Fundamental physics and biomechanics which support chiropractic techniques are taught.

## 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:

- Develop psychomotor skills in patient assessment and therapeutic intervention
- Understand principles related to patient assessment and therapeutic intervention
- Demonstration of ethical handling of patients
- Demonstrate practical use of anatomical knowledge
- Explain relevance of Chiropractic history and principles
- Demonstrate library, research, and critical thinking abilities
- Analyse and report quantitative data using graphs, tables, and verbal explanations.
- Capacity to use quantitative calculations to analyse elastic behaviour of solids, fluid pressure, and fluid flow.
- Develop safe and competent laboratory skills in handling equipment and making measurements
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

## General Assessment Information

It is important to understand that late principle assignment submissions will NOT be accepted.

Regarding the final practical assessment: if you are experiencing a situation that may negatively impact your practical performance, it is best to postpone the final practical assessment. We cannot determine how you might have performed if you were not disadvantaged. We assess all students under the same assessment conditions.

### Examination(s)

The University Examination period for the first Half Year 2015 (9 June-26 June). 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 illness or unavoidable disruption. In these circumstances you may wish to consider applying for Disruption of Study. 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.

## Assessment Tasks

Name	Weighting	Due
<a href="#"><u>Spot Test X2</u></a>	10%	Weeks 5 & 8
<a href="#"><u>Principles Essay</u></a>	20%	2 April
<a href="#"><u>Physics</u></a>	10%	week 5-7
<a href="#"><u>Practical Examination</u></a>	30%	week 13
<a href="#"><u>Theory exam</u></a>	30%	Exam Period

### Spot Test X2

Due: **Weeks 5 & 8**

Weighting: **10%**

Short practical assessment held during normal practical time in the 5<sup>th</sup> & 8<sup>th</sup> week

On successful completion you will be able to:

- Develop psychomotor skills in patient assessment and therapeutic intervention
- Understand principles related to patient assessment and therapeutic intervention
- Demonstration of ethical handling of patients
- Demonstrate practical use of anatomical knowledge

### Principles Essay

Due: **2 April**

Weighting: **20%**

This will be a scientific essay paper relating to the Chiropractic profession.

On successful completion you will be able to:

- Explain relevance of Chiropractic history and principles
- Demonstrate library, research, and critical thinking abilities

### Physics

Due: **week 5-7**

Weighting: **10%**

**Physics Assignment:** Will involve practical application of physics and will be due by week 7.

**Physics Practical:** Occur during Physics laboratory sessions. Attendance is essential for all sessions

On successful completion you will be able to:

- Analyse and report quantitative data using graphs, tables, and verbal explanations.
- Capacity to use quantitative calculations to analyse elastic behaviour of solids, fluid pressure, and fluid flow.
- Develop safe and competent laboratory skills in handling equipment and making measurements
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

## Practical Examination

Due: **week 13**

Weighting: **30%**

Occurring week 13 and will consist of performing procedures as taught in the unit.

On successful completion you will be able to:

- Develop psychomotor skills in patient assessment and therapeutic intervention
- Understand principles related to patient assessment and therapeutic intervention
- Demonstration of ethical handling of patients
- Demonstrate practical use of anatomical knowledge

## Theory exam

Due: **Exam Period**

Weighting: **30%**

These will cover the discipline specific content of the entire semester. Question format will be mixed and may include Multiple Choice, True and False, and short answer questions.

Chiropractic and Physics will be written at the same exam time.

(Physics -25% of final exam, Principles and Skills 75%)

On successful completion you will be able to:

- Understand principles related to patient assessment and therapeutic intervention
- Demonstration of ethical handling of patients
- Demonstrate practical use of anatomical knowledge
- Explain relevance of Chiropractic history and principles
- Demonstrate library, research, and critical thinking abilities
- Analyse and report quantitative data using graphs, tables, and verbal explanations.
- Capacity to use quantitative calculations to analyse elastic behaviour of solids, fluid pressure, and fluid flow.
- Develop safe and competent laboratory skills in handling equipment and making measurements
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

## Delivery and Resources

**Technology Used and Required: iLearn, Echo360, Practical Audio/Visual Equipment, and Electronic Lectern**

### Delivery mode

Will be comprised of a combination of face-to-face lectures, pre-recorded lectures, self-directed learning, and hands-on tutorials/practicals:

- 2 one hour lectures per week; 1 one hour lecture on Thursday and 1 one hour lecture on Friday
- 2 two hour tutorial/practicals per week, weeks 1-13 (except where indicated)
- 2-3 hours per week self- instructional learning

### Class times and locations:

#### Chiropractic

**Thursday 8-9 am; for location see timetable**

#### **Lecture1:**

**Lecture 2: Friday 8-9 am: for location see timetable**

**Tutorials1 & 2: Monday 13-15, or 15-17: for location see timetable**

**Friday 13-15, or 15-17:for location see timetable**

**Tutorial 3: See below**

## Physics

**Weeks 5 – 7 inclusive will involve Physics lectures and Laboratory sessions. Please note the following –**

Lectures: are held at their usual times and locations.

Monday Tutorial 1: will continue as chiropractic practicals.

Friday Tutorial 2: will be replaced by Tutorial 3; Physics Laboratory sessions held in E7A 114, that is, the North-Eastern corner of E7A on the ground floor.

Tutorial 3: Thursday 10-12, 12-2pm, 3-5pm, and 5-7pm

You must wear appropriate clothing for the laboratory including covered footwear.

## Required and recommended resources

- Prescribed texts

Ø Kendall et al. *Muscles: Testing and Function with Posture and Pain* (CDrom). Lippincott

Ø Hewitt Paul G. *Conceptual Physics: International Edition*,

11/E ISBN-10: 0321684923 ISBN-13: 9780321684929 Publisher: Benjamin Cummings

- Prescribed Unit Materials

Ø Palpation Manual (Course notes)

Ø Physics Lab Manual

- Recommended READING

Ø Biel, Dorn. *Trail Guide to the Body: How to locate Muscles, Bones and More*. Books of Discovery.

Ø Lavangie. *Joint Structure and Function*. FA Davis.

Ø Leach. *Chiropractic Theories – a Synopsis of Scientific Research*. Williams and Wilkins.

Ø Oatis C. *Kinesiology: the mechanics & pathomechanics of human movement* 2 ed. LWW

Ø Sackett et al. *Evidence-based Medicine: How to Practice and Teach EBM*. Churchill Livingstone.

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

Note: no changes have been made to this unit.

### Returning Assessment Tasks and Feedback

1. Spot Test: Results will be posted on iLearn within a week of completion, and feedback will be given in class.
2. Chiropractic Assignment: Will be returned by Week 13 and results will be posted on iLearn.
3. Practical Examination (OSCE): Results will be used for summative purposes. Marks will not be posted.
4. Written Examination: Papers will not be returned. Marks will be incorporated into the final unit grade.

## Unit Schedule

WEEK	TUTORIAL 1 MON	LECTURE 1 THUR	LECTURE 2 FRI	TUTORIAL 2 FRI
Week 1 23-27/ 2	No tutorial	Introduction/ Assignment CTR	Searching for Information CTR	Lab Introduction/ Group formation/ Group discussion
Week 2 2-6/3	Group formations Introductions/ WHS/ tables Terminology	Doctor/Patient Encounter /Posture CTR	Ranges of Motion/ Palpation Principles  CTR	Surface Anatomy /postural analysis
Week 3 9-13/3	Posture/AROM	Sacroiliac Anatomy and biomechanics  CTR	Principles of Chiropractic palpation  CTR	Introduction to palpation/layer/etc.
Week 4 16-20/ 3  Spot Test	Pelvic Surface Anatomy  <b>Spot test</b>	Early History of Chiropractic (DD) CTR	Early Challenges for Chiropractic CTR	Weight bearing SI Motion Palpation
Week 5 23-27/ 3	SI Palp	Physics – atoms and matter	Physics – elasticity of solids such as bone	Physics Prac (Thursday)  <b>No Chiro lab</b>



Week 6 30/ 3-3/4	SI Palp	Physics – stress/strain relationship, fractures	<b>No Lecture</b> <b>Public Holiday</b>	Physics Prac (Thursday)  <b>No Chiro lab</b>
Week 7 20-24/ 4	<b>Revision:</b> Posture/ROM/SI	Physics- pressure in static fluids	Physics – pressure in moving fluids	Physics Prac (Thursday) <b>No Chiro lab</b>
Week 8 27/ 4-1/5	Lumbar surface anatomy/ <b>Spot test</b>	Physics - gases	Lumbar Anatomy and biomechanics  CTR	Lumbar Prone
Week 9 4-8/5	Lumbar Prone continued	Australia's Chiropractic History  CTR	Thoracic and Rib Anatomy and biomechanics  CTR	Lumbar Seated
Week 10 11-15/ 5	Thoracic Landmarks/ "blind palpation"	Who do you believe? CTR	Low Back Pain & Chiropractic CTR	Thoracic Prone
Week 11 18-22/ 5	Thoracic Seated (lower)	Palmerian Philosophy of Chiropractic CTR	Macquarie's Philosophy of Chiropractic CTR	Thoracic Seated (upper)
Week 12 25-29/ 5	Posture/ROM/SI/ Lumbar/Thoracic	Chiropractic Compared  CTR	Where We've Been  CTR	Pressured Revision
Week 13 1-5/6	Revision	Where We're Going  CTR	Revision  CTR	<b>FINAL PRACTICAL</b>

## 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](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](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](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/](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](http://ask.mq.edu.au).

## Student Support

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

## Learning Skills

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

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

## Student Services and Support

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

## Student Enquiries

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

## 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

- Understand principles related to patient assessment and therapeutic intervention
- Explain relevance of Chiropractic history and principles
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

#### Assessment tasks

- Principles Essay
- Practical 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

- Understand principles related to patient assessment and therapeutic intervention
- Develop safe and competent laboratory skills in handling equipment and making measurements

#### Assessment tasks

- Practical Examination
- Theory exam

### 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**

- Explain relevance of Chiropractic history and principles
- Demonstrate library, research, and critical thinking abilities

### **Assessment task**

- Principles Essay

## **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**

- Develop psychomotor skills in patient assessment and therapeutic intervention
- Understand principles related to patient assessment and therapeutic intervention
- Demonstrate practical use of anatomical knowledge

### **Assessment tasks**

- Spot Test X2
- Principles Essay
- Physics
- Practical Examination
- Theory exam

## **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

- Understand principles related to patient assessment and therapeutic intervention
- Explain relevance of Chiropractic history and principles
- Demonstrate library, research, and critical thinking abilities
- Analyse and report quantitative data using graphs, tables, and verbal explanations.
- Capacity to use quantitative calculations to analyse elastic behaviour of solids, fluid pressure, and fluid flow.
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

## Assessment tasks

- Principles Essay
- Physics
- Practical Examination
- Theory exam

## 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

- Understand principles related to patient assessment and therapeutic intervention
- Explain relevance of Chiropractic history and principles
- Demonstrate library, research, and critical thinking abilities
- Analyse and report quantitative data using graphs, tables, and verbal explanations.
- Capacity to use quantitative calculations to analyse elastic behaviour of solids, fluid pressure, and fluid flow.
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

## Assessment tasks

- Principles Essay
- Physics

## 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

- Develop psychomotor skills in patient assessment and therapeutic intervention
- Demonstration of ethical handling of patients
- Demonstrate practical use of anatomical knowledge
- Explain relevance of Chiropractic history and principles
- Analyse and report quantitative data using graphs, tables, and verbal explanations.
- Understand basic properties of solids, liquids, and gases, including atomic theory, elasticity, and fluid static and dynamics, as applied to physiological problems

### Assessment tasks

- Spot Test X2
- Principles Essay
- Practical Examination
- Theory exam

## 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

- Develop psychomotor skills in patient assessment and therapeutic intervention
- Demonstration of ethical handling of patients

### Assessment tasks

- Spot Test X2
- Practical 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

- Demonstration of ethical handling of patients
- Develop safe and competent laboratory skills in handling equipment and making measurements

### Assessment tasks

- Physics
- Practical Examination

## CCEA Attendance Requirements

You are to attend the tutorial in which you are enrolled. Permission to attend an alternative tutorial requires permission from the unit's convener. CCEA requires 85% attendance. Failing to meet this minimum attendance will have a negative impact on your grade.

## Passing requirements and Grade Standards

### Grades

**Achievement of grades will be based on the following criteria:**

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

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

**Credit:** provides evidence of learning that goes beyond replication of content knowledge or skills

relevant to the learning outcomes. There is demonstration of substantial understanding of fundamental concepts in the field of study and the ability to apply these concepts in a variety of contexts; plus communication of ideas fluently and clearly in terms of the conventions of the discipline.

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

**Fail:** does not provide evidence of attainment of all learning outcomes.

There is missing or partial or superficial or faulty understanding and application of the fundamental concepts in the field of study; and incomplete, confusing or lacking communication of ideas in ways that give little attention to the conventions of the discipline.

IMPORTANT NOTE: There are 3 components of this unit; 1) theoretical chiropractic knowledge, 2) practical chiropractic skills, and 3) physics. It is necessary to meet the passing level for each of these components in order to pass the unit. The passing standard for each component is 60% of the available raw marks. **Raw marks will be translated into a Standard Numerical Grade according to the table below.**

GRADE	REQUIREMENTS
Pass	A minimum of 60% in each of assessment PLUS a minimum 60% total raw mark.
Credit	A minimum of 60% in each of assessment; PLUS a minimum 70% total raw mark
Distinction	A minimum of 60% in each of assessment; PLUS a minimum 80% total raw mark
High Distinction	A minimum of 60% in each of assessment tasks; PLUS a minimum 85% total raw mark

## Changes since First Published

Date	Description
22/02/2015	Hello Hazel, I have added additional information about the Physics Lecturer (contact details). (Staff details) I added a section on the final exam process (dates, etc). (General assignment information) I've added information about feedback policies. (Delivery and resources) Thank you, Curtis



Date	Description
20/ 02/ 2015	No changes

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