



**Faculty of Medicine  
School of Medical Sciences**

**HESC4571**

**Research Internship B**

**COURSE OUTLINE**

**TERM 3, 2019**

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Please read this outline in conjunction with the following pages on the [School of Medical Sciences website](#):

- [Advice for Students](#)
- [Learning Resources](#)

(or see “STUDENTS” tab at [medicallsciences.med.unsw.edu.au](http://medicallsciences.med.unsw.edu.au))

## HESC4571 Course Information

This course comprises the second half (10 weeks) of a 20 week (2 term) experimental research project, supervised by a suitable staff member of an institution. The project may encompass a systematic review, project development, clinical or laboratory experiments, statistical analyses, and oral and written reporting. Projects may also involve 'placements', possibly outside UNSW, in the form of externally funded research programs, industrial placements or other programs either during the usual session or in the session breaks. In these cases students will require an academic member of staff to supervise the internship. The course will develop your ability to formulate research questions, conduct in-depth studies, analyse and present data, and write reports.

### OBJECTIVES OF THE COURSE

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- To develop critical thinking in relation to the scientific literature
- To foster independence in undertaking research projects, such as collecting and analysing scientific and clinical data or conducting a systematic review
- To provide skills in effective scientific communication

### COURSE CO-ORDINATOR and LECTURERS

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Course Coordinator:

**Dr Carolyn Broderick**

School of Medical Sciences  
Wallace Wurth, Lvl 2 NW, Rm 221  
Available Wednesdays & Thursdays  
[c.broderick@unsw.edu.au](mailto:c.broderick@unsw.edu.au)

Students wishing to see the course coordinator should make an appointment *via* email as our offices are not readily accessible. We will organize to meet you in a convenient location elsewhere in the building.

For administrative matters, please submit enquiries via the [UNSW Student Portal Web Forms](#)

## **COURSE STRUCTURE and TEACHING STRATEGIES**

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- **Credit Points:** 6 UOC

### **Course Prerequisites / Assumed Knowledge**

- HESC4561 – Research Internship A

### **Course Contact hours**

- Poster Presentations seminar: Wed Week 9 (2 hour session)
- Regular meetings with research supervisor

A 6 UOC course at UNSW requires approximately 150 hours of student work in total. This time may involve data collection, entry and analysis, and other relevant tasks (e.g. writing research report), for up to 15 hours per week across 10 weeks.

### **TEACHING STRATEGIES:**

**Oral research poster presentations** – These are the only classroom contact hours in Research Internship B. This provides an opportunity for you to get direction on your research progress and assessment tasks as well as to see and learn from what your colleagues have completed for their projects.

**Independent study** – Independent study will make up a major portion of the course.

**Assessments** – These tasks have been chosen as tools to enhance and guide your learning as well as a way of measuring performance and are therefore a central teaching strategy in this course. The assessments have been designed as authentic tasks that replicate the processes a scientist or research-active clinician would undertake to conduct and present research. It is commonplace for practicing clinicians to see the end-product of this process when attending conferences run by professional associations or reading research publications as part of ongoing education as a healthcare professional.

## **APPROACH TO LEARNING AND TEACHING**

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The learning and teaching philosophy underpinning this course is centred on student learning and aims to create an environment which interests and challenges students. The experience is designed to be engaging and relevant in order to prepare students for future careers in research or clinical exercise physiology.

## **RATIONALE FOR COURSE & TEACHING APPROACH**

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**How the course relates to the Exercise Physiology profession** – The information and ideas presented in this course will enable development of the critical thinking and good communication skills necessary to professionals. Good communication skills are necessary to build an effective relationship between the patient and the practitioners. Along with the knowledge of techniques used in experimental research, understanding how science is published and ranked is a prerequisite to appreciate scientific output quality. A solid understanding of research in the field of Exercise Sciences is essential to evidence-based

clinical practice and to appreciate the progress and evolution of techniques and knowledge in exercise physiology.

**How the course relates to other courses in the Exercise Physiology program** – Together with Research Seminars (HESC4501), this fourth year course (& its linked course HESC4561) builds upon the knowledge accumulated throughout the whole program. It uses previously understood fundamental concepts to build the necessary critical thinking towards professional independence.

See also [medsciences.med.unsw.edu.au/students/undergraduate/learning-resources](http://medsciences.med.unsw.edu.au/students/undergraduate/learning-resources)

## **STUDENT LEARNING OUTCOMES**

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HESC4561 & HESC4571 will develop those attributes that the Faculty of Medicine has identified as important for an Exercise Physiology graduate to attain. These include; skills, qualities, understanding and attitudes that promote lifelong learning that students should acquire during their university experience.

The assessment in the course will be matched as closely as possible to the stated learning outcomes. That is, the assessment will test how well you have achieved the learning outcomes of the course. The general learning outcomes for the course are as follows:

### ***At the end of the course you should be able to:***

- Develop a research question based on review of existing scientific or clinical research
- Develop an understanding of current techniques used in biomedical research
- Collect, organise, interpret and present data
- Develop skills in scientific communication, including oral and written skills
- Communicate and work effectively with peers, colleagues and stakeholders

### **Graduate Attributes**

- Engage in independent and reflective learning for the betterment of professional clinical practice, following an evidence-based approach
- Communicate effectively with patients, colleagues and other health professionals

## **COURSE EVALUATION AND DEVELOPMENT**

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For course evaluation, feedback will be gathered at the completion of the course, using among other means, UNSW's Course and Teaching Evaluation and Improvement Process and myExperience. Student feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

## **ASSESSMENT PROCEDURES**

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Assessment will consist of a research dissemination strategy, a poster presentation, a written research report and a supervisor report.

**Summary of Assessment tasks**

**Weight**

**Due Date**

<b>ASSESSMENT TASK 1 – DISSEMINATION STRATEGY</b>	<b>10%</b>	<b>Week 3</b>
<p>Important research findings are often poorly translated into clinical practice. The learning objectives of this assessment task are to:</p> <ul style="list-style-type: none"> <li>• Identify key stakeholders for dissemination of findings of research project</li> <li>• Determine strategies for dissemination of results to aid translation of findings into practice</li> </ul> <p>Identify the relevant audience for your research findings. Write a 200 word summary of the project, it's findings and its relevance to the key target audience in language appropriate to the audience.</p>		
<b>ASSESSMENT TASK 2 – POSTER PRESENTATION</b>	<b>30%</b>	<b>Week 9</b>
<p>A summary of the research undertaken in a poster format that could be presented at a conference/workshop or at a public information session.</p>		
<b>ASSESSMENT TASK 3 – WRITTEN RESEARCH REPORT</b>	<b>50%</b>	<b>Week 10</b>
<p>A written assignment of 4000 words which includes a detailed scientific description of the research project containing an introduction, aims, hypothesis (if appropriate), methods, results, discussion and conclusions/recommendations. Presented in the format of a scientific journal article.</p>		
<b>ASSESSMENT TASK 4 – SUPERVISOR REPORT</b>	<b>10%</b>	<b>Week 10</b>
<p>A report by the internship supervisor commenting on the student's performance throughout the term. A rubric will form the basis for the Supervisor Report.</p>		

### Submission of Assessment Tasks

Written assignments are to be submitted electronically through Turnitin via Moodle.

### Penalties for late submission of assignments

In cases where an extension has NOT been granted, the following penalties will apply:

- For assignments submitted after **the advised time** on the due date, a penalty of 50% of the maximum marks available for that assignment will be incurred.
- A further 25% of the maximum possible allocated marks (i.e., a total of 75%) will be deducted from assignments which are two (2) days late.
- Assignments received more than two (2) days after the due date **will not be allocated a mark**, however, these assignments **must** still be submitted to pass the unit.

### GENERAL INFORMATION

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#### Attendance Requirements

For details on the Policy on Class Attendance and Absence see [Advice for Students](#) and the [Policy on Class Attendance and Absence](#).

Attendance at poster presentations is compulsory and must be recorded in the class roll at the start of each class. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance. It is your responsibility to ensure that the demonstrator records your attendance and no discussions will be entered into after the completion of the class. It should be noted that non-attendance for other than documented medical or other serious reasons during the term may result in ineligibility to pass the course. Students who miss seminars due to illness or for other reasons must submit a copy of medical certificates or other documentation to the course coordinator.

### **Special Consideration**

Please see [Advice for Students – Special Consideration](#)

### **Student Support Services**

See: [Student Advice-Student support services.](#)

### **Academic Integrity and Plagiarism**

The [UNSW Student Code](#) outlines the standard of conduct expected of students with respect to their academic integrity and plagiarism.

More details of what constitutes plagiarism can be found [here](#)

## Health and Safety

See also [Advice for Students](#)

Class activities must comply with the NSW Health & Safety Act 2011 and the Work Health & Safety Regulations 2017. For students completing lab-based projects, it is mandatory to complete minimal HS training. The training courses that you have to undertake also depend of the nature of the techniques you will be using or the environment itself.

**To get a list of your specific mandatory training, contact your supervisor at least one month before the commencement of your internship.**

### Health and safety training

Some internships will be completed in a laboratory environment, which will have particular health and safety requirements that your supervisor and/or a lab manager will convey. When undertaking internships in a laboratory the UNSW Health and Safety Awareness course will typically be required at a minimum and is completed online following the instructions below. The course convenor or your supervisor can arrange for you to have access to the online course.

1. Go to myUNSW and use the new single sign on button to access myUNSW
2. Look at the top right of the screen and click on the Moodle logo
3. On the right hand side will be a box labelled "My Courses" with the UNSW OHS Awareness course listed there
4. Click on the course and you will be taken to the home page of the course containing the introduction to the course, the module and the assessment
5. Click on Part One to access the course – please note that it may take a few moments to load on your computer – please be patient during this time and don't click anything on the screen
6. Once you have finished with the course, click on Part Two and complete the assessment

### Insurance Cover

UNSW students undertaking external placements as a component of their degree program are covered by the University's insurance policy for public liability, professional indemnity and personal accident. The University has liability insurance in excess of \$10 million for any one claim in the event of such an occurrence.

If requested, the employer hosting a placement can be provided with a Letter of Indemnity issued by the Program Officer or Authority prior to commencement of the placement confirming insurance coverage.

The university, employers and students should undertake all reasonable measures to ensure the safety of students, employers and the general public is maintained at all times. In the situation that such an event occurs, the Program Officer, Course Convenor or Program Authority should be immediately informed.

## TIMETABLE

Week	Date	Item	Details
1			
2			
3		<b>Research Dissemination Strategy Assignment</b>	<b>Assessment task 1 to be completed no later than 5PM Friday of WEEK 3</b>
4			
5			
6			
7			
8			
9		<b>Poster Presentation</b>	<b>Assessment task 2 is to be submitted no later than 9 AM Monday of WEEK 9</b> ( <i>i.e., the PowerPoint presentation used during your poster presentation is to be posted via Moodle</i> ).
10		<b>Written Research Report</b>	<b>Assessment task 3 is to be submitted no later than midnight Friday of WEEK 10</b> ( <i>i.e., the final written report is to be posted via Moodle</i> ).
10		<b>Submission Supervisor Report</b>	<b>Assessment task 4 is to be submitted no later than Friday 5pm of WEEK 10</b> ( <i>i.e., the supervisor report is to be posted via Moodle</i> )

## ASSESSMENT TASKS

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Task	Due Date
DISSEMINATION STRATEGY	Week 3
POSTER PRESENTATION	Week 9
WRITTEN RESEARCH REPORT	Week 10
SUPERVISOR REPORT	Week 10

### Assessment Task 1 – DISSEMINATION STRATEGY

Important research findings are often poorly translated into clinical practice.

#### Learning outcomes:

- Identify key stakeholders for dissemination of findings of research project
- Determine strategies for dissemination of results to aid translation of findings into practice

This assessment involves identifying the relevant audience for your research findings & writing a 200 word summary of the project, it's findings and its relevance to the key target audience in language appropriate to the audience.

### Assessment Task 2 – POSTER PRESENTATION

Of the format 4 minutes presentation, 3 minutes questions/discussion/feedback

#### Learning outcomes:

- To generate original scientific illustrations
- To be able to organize, present and discuss your research findings

See *Course Schedule* for submission instructions

This poster presentation is a defence of the research work

The poster should follow the following guidelines:

**Title** – Up to 20 words

Student number and name and details of research team including supervisor

**Background, Methods, Results, Discussion/Conclusions and Future Directions**

**Figures and/or Tables and References.**

### Assessment Criteria

This marking scheme will be used to grade your poster presentation

<b>Background &amp; Content</b>	<b>Max Marks = 10</b>	<b>Unsatisfactory (mark = 0)</b>	<b>Below average (0.5)</b>	<b>Satisfactory (mark = 1.0)</b>	<b>Good (mark = 1.5)</b>	<b>Excellent (mark = 2.0)</b>	<b>Mark</b>
Relevant background & adequate justification for study	2						
Aims & scope of study adequately explained	2						
Structure is logical & easy to follow	2						
Critical analysis of results	2						
Able to be understood by an educated but non-expert audience	2						
<b>Poster appearance &amp; Presentation Style</b>	<b>Max Marks = 20</b>	<b>Unsatisfactory (mark = 0)</b>	<b>Below average (1.0)</b>	<b>Satisfactory (mark = 2.0)</b>	<b>Good (mark = 3.0)</b>	<b>Excellent (mark = 4.0)</b>	<b>Mark</b>
Layout attractive	4						
Font size & colour easy to read	4						
Use of pictures, diagrams & tables	4						
Confident voice, audience engagement & timing (not too short or long)	4						
Ability to interpret & answer questions	4						

### Assessment Task 3 – WRITTEN RESEARCH REPORT

#### Learning Outcomes:

- To be able to write a report of a research study using scientific language

See *Course Schedule* for submission instructions

The research report should follow the following guidelines:

**Title** – Up to 20 words

**Authorship details** - Student number and name, details of supervisor & research team including institutional details

**Abstract** – Up to 300 words

**Introduction**

**Material and Methods**

**Results and Discussion**

**Figures and Tables** – 3-5 figures or tables including legends

**Conclusion** – Up to 300 words, providing perspective and future directions

**References** – Up to 30 references of original research articles

Article should be formatted, 1.5 line-spacing, Margins 2.5cm. Body text: 12 font. Illustration legends text: 10 font. Total Word Count ~3600 +/- 10%. The file should be a word document (.doc or .docx format).

#### Assessment Criteria

This marking scheme will be used to grade your written research report

Background	Max Marks 10	Unsatisfactory (mark = 0)	Below average (0.5)	Satisfactory (mark = 1.0)	Good (mark = 1.5)	Excellent (mark = 2.0)	Mark
Abstract Concise & relevant	2						
Clinical relevance of the research project / systematic review adequately explained	2						
Scope of the research project / systematic review adequately explained	2						
Coverage of appropriate research to date in this area	2						
Explanation of gaps in the literature	2						
Content	Max Marks 20	Unsatisfactory (mark = 0)	Below average (1.0)	Satisfactory (mark = 2.0)	Good (mark = 3.0)	Excellent (mark = 4.0)	Mark
Accurate and detailed description of study design, methods & procedures	4						
Accurate description of outcome measures – primary and secondary,	4						

sample size & power calculations							
Results well presented	4						
Conclusions are valid with depth of critical analysis of results	4						
Accurate summary of strengths, weaknesses and future directions	4						
<b>Quality of the writing</b>	<b>Max Marks = 20</b>	<b>Unsatisfactory (mark = 0)</b>	<b>Below average (1.0)</b>	<b>Satisfactory (mark = 2.0)</b>	<b>Good (mark = 3.0)</b>	<b>Excellent (mark = 4.0)</b>	<b>Mark</b>
Clear, fluent writing	4						
Grammar & spelling	4						
Adherence to prescribed format	4						
Written for educated but non-expert reader	4						
Referencing (accuracy & format)	4						

#### Assessment Task 4 – SUPERVISOR REPORT

#### ASSESSMENT FORM FOR HESC4561 RESEARCH PROJECT

*(To be completed by the supervisor)*

*The supervisor is encouraged to discuss this evaluation with the student before sending the evaluation to the course convenor.*

Student Name: \_\_\_\_\_

Supervisor Name: \_\_\_\_\_

This internship started on (date) \_\_\_\_\_ and was completed on (date) \_\_\_\_\_

At (location) \_\_\_\_\_

Please give a brief summary of the internship:

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<b>Student attribute</b>	<b>Excellent (1.0)</b>	<b>Good (0.75)</b>	<b>Average (0.5)</b>	<b>Poor (0.25)</b>
<i>Enthusiasm for the experience</i>				
<i>Accuracy and precision in experiments</i>				
<i>Decision-making, judgments, setting priorities</i>				
<i>Attention to detail</i>				
<i>Willingness to ask for guidance</i>				
<i>Persistence to complete tasks</i>				
<i>Data analysis skills</i>				
<i>Ability to synthesize information and communicate it effectively</i>				
<i>Ability to work cooperatively with others</i>				
<i>Ability to create and communicate possible solutions to problems</i>				

*Additional comments:* .....

*Grade:*            /10

*Signature of Supervisor and date of evaluation:* .....