

# School of Medical Sciences Honours

Faculty of Medicine and Health

SOMS4888 (Full-time)  
SOMS4884 (Part-time)

COURSE OUTLINE  
(48 UOC)

TERM 1, 2022

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Please read this course 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))

## COURSE OBJECTIVES

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The main aim of the course is to introduce undergraduate students to medical research. Students will undertake a supervised research project that places emphasis on advanced disciplinary knowledge, the use of specialised techniques relevant to their chosen research area, critical thinking and scientific communication. Students also gain experience in scientific writing and oral presentation via the submission of two written assessments - a literature review and a research manuscript based on substantial independent research activity - and two student seminars. The course is also comprised of compulsory online Research Skills modules (via Moodle), School of Medical Sciences (SoMS) seminars (UNSW-based students) and Departmental/Research Institute/Lab Group seminars (all year round).

## SoMS HONOURS COURSE CONTACTS

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### Course Convenor

Dr Trevor Lewis                      [t.lewis@unsw.edu.au](mailto:t.lewis@unsw.edu.au)                      T: 9065 9730

### Administrative officer

Lucia Evangelista                      [SOMSHonours@unsw.edu.au](mailto:SOMSHonours@unsw.edu.au)                      T: 9065 9557

Note: All emails relating to SOMS Honours should be sent to [SOMSHonours@unsw.edu.au](mailto:SOMSHonours@unsw.edu.au) in the first instance.

## SoMS HONOURS COMMITTEE

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The SoMS Honours Committee is comprised of representatives of the academic disciplines of the School of Medical Sciences and affiliated institutes. The Honours Committee oversees the assessment and grading of the Honours projects and makes recommendations to the Head of School on final grades and nominations for University Medals. The Committee ensures that the assessment of each student is fair and appropriate. The Committee is also a source of help and advice for Honours students and their supervisors.

### SoMS Honours Committee Members:

A/Prof Lu Liu	<a href="mailto:lu.liu@unsw.edu.au">lu.liu@unsw.edu.au</a>
Dr John Lock	<a href="mailto:john.lock@unsw.edu.au">john.lock@unsw.edu.au</a>
A/Prof James McAuley	<a href="mailto:james.mcauley@unsw.edu.au">james.mcauley@unsw.edu.au</a>
A/Prof Joshua McCarroll	<a href="mailto:j.mccarroll@ccia.org.au">j.mccarroll@ccia.org.au</a>
Dr Mee Ling Munier	<a href="mailto:cmunier@kirby.unsw.edu.au">cmunier@kirby.unsw.edu.au</a>
Dr Kate Poole	<a href="mailto:k.poole@unsw.edu.au">k.poole@unsw.edu.au</a>
Dr George Sharbeen	<a href="mailto:g.sharbeen@unsw.edu.au">g.sharbeen@unsw.edu.au</a>
AProf Nicola Smith	<a href="mailto:nicola.smith@unsw.edu.au">nicola.smith@unsw.edu.au</a>
Dr Daina Sturnieks	<a href="mailto:d.sturnieks@unsw.edu.au">d.sturnieks@unsw.edu.au</a>

## **SoMS Honours Mentors**

Students will be informed which member of the Honours Committee has been assigned as their mentor in week 1 of the term. Students should seek help and advice from their mentor if difficulties of personal or professional nature arise. All discussion with your mentor will be strictly confidential. Students can also ask for general feedback from their assessed work. The initial point of contact should be via e-mail to set an appointment. Once assessment tasks have been graded, students can meet with their mentor to receive feedback on their performance. Your mentor will also review your Negotiated Expectations and Milestones and evaluate your progress report.

## **APPROACH TO LEARNING AND TEACHING**

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The learning and teaching philosophy underpinning this course is centred on Honours students taking on the role as a researcher. In doing so, they develop advanced disciplinary knowledge, the use of specialised techniques relevant to their chosen research area, critical thinking, evaluation and synthesis of information, in addition to scientific research communication in the oral and written forms.

The principal form of teaching is based on research supervision and direction by specialist researchers within the Faculty of Medicine. Complementary to this, online Research Skills modules have been designed to provide training to Honours students in diverse areas that constitute research practice. Learning outcomes from this course will form the basis for future pursuits in medical research and transferable skills that are highly relevant for many other professions.

The information for this course (ie. course content) is in the form of experimental techniques, protocols, technical training and materials, which are usually provided by each laboratory and supervisor. In addition, self-directed use of other resources (for example web-based sources) is expected. You will need to maintain consistent communication with your supervisor and actively seek assistance from your mentor or supervisor to clarify your understanding, as required.

## **STUDENT LEARNING OUTCOMES**

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This Honours course will develop those attributes that the Faculty of Science has identified as important for a Science Graduate to attain. These include skills, qualities, understanding and attitudes that promote lifelong learning that students should acquire during their university experience.

### **GRADUATE ATTRIBUTES**

- A. Research, inquiry, analytical thinking abilities and reflective practice as a 'researcher'
- B. The capability and motivation for intellectual development
- C. Ethical, social and professional understanding
- D. Effective research communication in both oral and written formats
- E. Teamwork, collaborative and management skills
- F. Information Literacy – the skills to locate, evaluate, synthesise and use relevant information

### **Course Learning Outcomes:**

1. Demonstrate your understanding of relevant research methodologies by applying them appropriately to the research project.
2. Plan, collect, analyse and interpret qualitative or quantitative data, and reach appropriate conclusions that are supported by evidence.
3. Demonstrate effective oral and written communication skills in clear and concise presentation of information that is appropriately referenced.

4. Demonstrate professional skills in planning, time management, teamwork and research integrity.
5. Interpret and critically evaluate the relevant research literature, to formulate hypotheses and justify discussion, comparisons or conclusions from the research performed.

## **ATTENDANCE REQUIREMENTS**

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It is expected that full-time students will contribute 35 hours per week and part-time students 24 hours per week, from the start of the commencing term until the end of the final term of the Honours year. The periods between terms are not designated breaks from Honours. However, it is expected that supervisors will permit students to take a break or breaks during the Honours 'year' of up to 4 weeks in total (equivalent to the periods between the terms) at times that do not impact assessment tasks or planned experiments. Students and supervisors should discuss suitable times for breaks at the commencement of Honours and document these in the Negotiated Expectations & Milestones document (see below).

Specific attendance requirements will be dictated by the nature of the work in relation to preparing and writing a literature review and subsequently a manuscript, preparing and delivering two seminars, and by the nature of the research project. Attendance requirements will be agreed mutually between student and supervisor. As with academic staff, students are expected to work between the normal working hours of 8:00 am and 6:00 pm on weekdays. Work outside these hours can only be undertaken once appropriate training, supervision and approval for working out of normal hours has been completed.

The University acknowledges that students are involved in many extra-curricular activities throughout their studies. The School of Medical Sciences is generally supportive of students' activities but must be confident that these do not significantly impact on research activities or completion of assessment requirements.

## **SPECIAL CONSIDERATION**

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Should you feel that there are circumstances that have affected your performance in the course, or which have prevented you from completing an assessment task, you should lodge an application for special consideration. Further information on the procedures involved can be found at <https://student.unsw.edu.au/special-consideration>.

### **Equitable Learning Services**

Students who require some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convenor prior to, or at the commencement of, their course, or with Equitable Learning Services.

<https://student.unsw.edu.au/els>.

Early notification is essential to enable any necessary adjustments to be made.

## **HEALTH AND SAFETY**

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UNSW aims to provide a physically safe, healthy and secure learning and working environment for all students. Your supervisors in this course are responsible for your safety during dedicated research time. In return, you are expected to: behave with respect toward them and your fellow students; to follow instructions from your supervisors; and complete the necessary training. If you are concerned about your health or safety during the course, you must tell your supervisor, lab manager or Honours convenor immediately.

It is important that you familiarise yourself with the risks and hazards involved with your research work and the control measures in place to prevent harm to you and others. At the start of your Honours year, you must complete mandatory Health & Safety (H&S) courses and

identify with your supervisor any other H&S courses or training you need to undertake. Before commencing specific laboratory tasks, you need to familiarise yourself with any relevant risk assessments and safe work procedures. All students are required to complete, in consultation with their supervisor, the HS Individual Training Plan (HS006a) and document completion of the relevant H&S activities.

Information and contacts regarding H&S training and requirements can be found on the [UNSW Health & Safety Training](#) website. Below is a list of the mandatory and other common H&S courses that Honours students at SoMS undertake.

- Work Health & Safety Awareness (mandatory for all students)
- Ergonomics & Manual tasks (mandatory for all students)
- Laboratory Safety Awareness (mandatory for all students working in laboratories)
- Green Lab Environment Compliance (mandatory for all students working in laboratories)
- Biosafety for PC2 Laboratories (mandatory for all students who will be working in a PC2 laboratory)
- Hazardous Substances (mandatory for all students who will be working in laboratories with hazardous substances).
- Other training – Introduction to Radiation, Animal Handling/Ethics, Gene Technology, Liquid Nitrogen, Fume Cupboards etc – as required (please discuss with your supervisor)

All students are required to complete, in consultation with their supervisor, the Immunisation Questionnaire and Authorisation form (HS427) – to identify whether or not they need immunisation depending on the nature of the research project. Further information is available on the [H&S Protocols & Guidance webpage](#).

Evidence of your H&S training and completed immunisation forms must be kept with your supervisor and/or manager.

## **IMPACT OF COVID-19**

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The ongoing COVID-19 pandemic continues to pose challenges for undertaking laboratory based research. Given the uncertain nature of the pandemic, emerging variants and the response from governments, all supervisors and students must have a cogent contingency plan for any proposed Honours project and must not rely solely on a wet-lab project. Contingency plans may involve analysing existing data sets that are available with the research group or available online; collecting data remotely; data collection and analysis from simulations, or developing models; or analysis of data collected by the supervisor or other staff approved to work in the laboratory if any restrictions are imposed or there are disruptions due to infections in the laboratory personnel.

### **IMPORTANT**

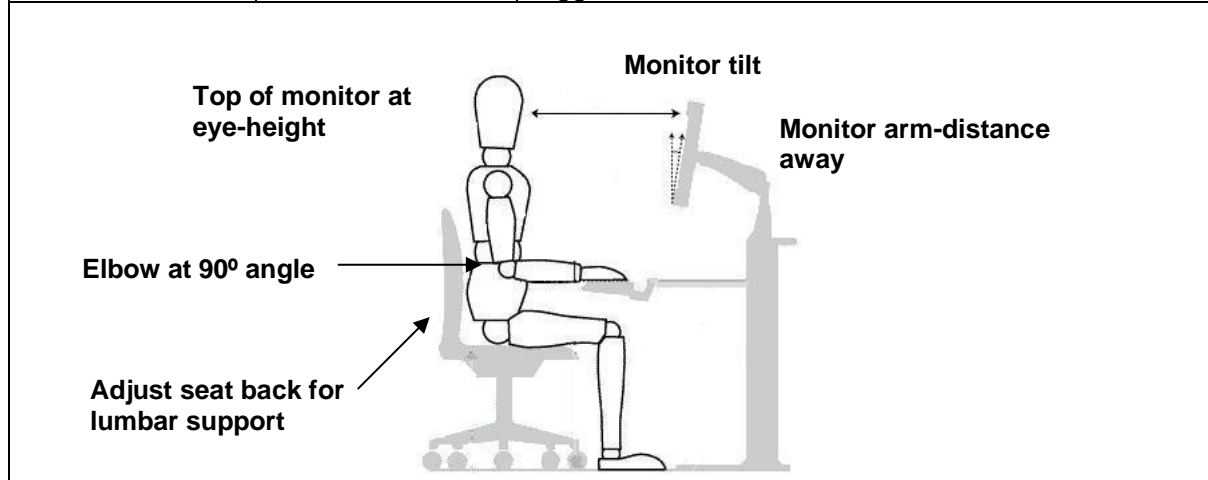
All Honours research students planning to attend the UNSW campus must complete the [Safe Return to Campus Guidance](#) training module, which entails viewing a video and recording completion of the module. Students based at off-campus research facilities or affiliated institutes should follow the guidelines in place in those areas. Please contact the lab manager or supervisor for further details.

**STUDENT RISK ASSESSMENT**

SoMS Research Laboratory Student Risk Assessment		For use of computers in SoMS Office areas in Wallace Wurth, 2021
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**Workstation set-up**

Ergonomics	Musculoskeletal pain.	Correct workstation set-up.
Electrical	Electrical shock/fire	Check electrical equipment in good condition before use. All portable electrical equipment tested and tagged.



**Personal Protective Equipment**

Not necessary for use of computers in office areas.

**Emergency Procedures**

In the event of an alarm, follow the instructions of the Floor Warden. The initial sound is advising you to prepare for evacuation and during this time start packing up your things. The second sound gives instruction to leave. The Wallace Wurth assembly point is in the lawn in front of the Chancellery. In the event of an injury, inform the lab manager. First aiders and contact details are on display by the lifts. There is a first aid kit on every floor in the Wallace Wurth building.

**Clean up and waste disposal**

Not applicable for use of computers in office areas.

**Declaration**

I have read and understand the safety requirements for using computers in office areas and I will observe these requirements.

Signature: ..... Date: .....

Student ID Number: .....

**TIMETABLE FOR FULL-TIME STUDENTS COMMENCING TERM 1, 2022**

<b>Component</b>	<b>Due Date</b>	<b>Venue for Seminar or Place for Submitting Assessment</b>
Expectations and milestones document	Week 3 of Term 1 28 Feb 2022, 4:00 pm	Online via Moodle
Research Skills	29 May 2022	Moodle (not assessed)
Literature Review	Week 9 of Term 1 19 April 2022, 4:00 pm	Online via Turnitin on Moodle
Introductory Seminars	9 May – 11 May 2022	Schedule and venue TBC
Progress Report	Week 8 of Term 2 18 July 2022, 4:00 pm	Online via Moodle
Project Manuscript Submission	Week 8 of Term 3 31 Oct 2022, 4:00 pm	Online via Turnitin on Moodle
Final Seminars	14-16 Nov 2022	Schedule and venue TBC



## NEGOTIATED EXPECTATIONS AND MILESTONES

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At the start of the honours year, students and their supervisors should discuss and document the expectations and milestones of the project. This should also capture the contingency plans for the project. A template Negotiated Expectations and Milestones document will be available on Moodle. The completed document is to be submitted by the student online via Moodle (see timetable).

## RESEARCH SKILLS

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Each student will be required to complete a range of online activities relating to key research skills. These will be made available via the course Moodle page and must be completed by the due date indicated in the schedule above.

## SCIENTIFIC ETHICS

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Students must behave in an ethical, socially responsible and professional manner throughout the Honours year (Graduate Attribute C) as outlined in the Australian Code for the Responsible Conduct of Research<sup>1</sup> and the UNSW Research Code of Conduct. Students are expected to be familiar with the Principles and Responsibilities that are set out in the UNSW Research Code of Conduct. These documents should be consulted directly and be considered when discussing the expectations and milestones for the project.

### Data Confidentiality

The student project, both experimental concepts and data generated, is confidential and proprietary to the laboratory of origin. There must be no public posting of either the experimental plans or data (unpublished or protected under copyright) on the internet or social media platforms (e.g. Twitter, Instagram, Facebook, TikTok).

## ASSESSMENT

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Literature Review	20 %
Introductory Seminar	10 %
Project Manuscript	50 %
Final Seminar	20 %

### Literature Review

The literature review should be 3,000 words (+/- 10%) and as the name implies, should give a detailed account of published scientific investigations that are relevant to the project being undertaken. It should contain an introduction, aims and hypotheses, and methods sections. The introduction should identify the limitations of the literature and/or areas of controversy and assess them critically. It should be appropriately referenced with recent and appropriate studies and have clear and logical flow. The aims, hypotheses and methods sections should together be a maximum of 450 words (i.e. only 15% of the literature review). The stated aims should clearly relate to the areas outlined in the introduction and the hypotheses should also be clear and valid. Methods are to be summarised clearly and concisely and be appropriate and valid for the stated aims. Absolutely no results from the student's honours project are to be included in the literature review. The word count for the literature review excludes the title page, headings, diagrams, tables, figures, figure legends, in-text citations, final reference list, etc. Tables, figure and diagrams should be integrated into the appropriate sections of the text. The referencing style of the literature review should be the same as that specified in the

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<sup>1</sup> Jointly issued by the National Health and Medical Research Council, the Australian Research Council and Universities Australia.

“School of Medical Sciences Honours Manuscript - Instructions to Authors” (see below). If you exceed the word limit, only the first 3,300 words of the document will be examined.

### **Supervisor input in literature review preparation**

Supervisor(s) are expected to read and provide editorial input on multiple drafts of the literature review (consider documenting agreed dates for submission of drafts and return of feedback in your Expectations and Milestones document).

**Due:** See timetable (late penalties apply)

**Length:** 3,000 words (+/- 10%)

**Copies:** One PDF electronic copy must be submitted via Turnitin© on Moodle.

### **Introductory Seminar**

The introductory seminar is a 10-minute presentation with 5 minutes of questions. The presentation should cover the background and methods of the project and not contain any preliminary results. The introduction of the talk should include a critical analysis of strengths and limitations of the literature. The hypotheses and aims should be clearly stated and relate to the strengths and limitations of the literature identified. The methods should be explained clearly and concisely. The seminar should have clear and logical flow, good pace (i.e. neither hurried nor laboured) and use good visual quality slides. The student should demonstrate an understanding of the questions raised during question time by giving appropriate answers. All aspects of the seminar should be able to be understood by a non-expert audience. Each student’s seminar presentation will be assessed by academics from the audience and the dedicated Examiners 1 and 2. Dedicated Examiners 1 and 2 are expected to attend and mark the students they have agreed to examine (see ‘Guidelines for Examination’).

**Date:** See timetable

**Venue:** TBC (either live-online or face-to-face depending on COVID restrictions)

**Length:** 10-minute presentation, 5-minute question time

### **Project Manuscript**

The format of the project manuscript is to comply with the guidelines set out in the “School of Medical Sciences Honours Manuscript - Instructions to Authors” and should contain an abstract, statement of contribution and acknowledgments, brief introduction with aims and hypotheses, materials and methods, results, discussion and references sections. The word count should be 5,000 words (+/- 10%). This word limit excludes the abstract, statement of contribution, acknowledgements and references sections, as well as supplementary data (if present), tables, figures, figure legends, in-text citations and the one-page reflective summary (see below).

You will be required to complete a declaration of originality (online via Moodle) which will then give you access to the submission link for the project manuscript. The declaration states:

*“This assessment item is entirely my own original work, except where I have acknowledged use of source material such as books, journal articles, other published material, the Internet, and the work of other student/s or any other person/s. The contents in this assessment item have not been submitted or are in process of being submitted for assessment for academic credit in this, or any other course, at UNSW or elsewhere.”*

The abstract should succinctly and accurately summarise the aims and outcomes of the project. The **statement of contribution** should clearly declare the specific components of the research that were undertaken independently by the student, and those components of the research that were done in collaboration with others, or that were performed by others. Being trained or supervised in a technique, but then generating the data independently, or being given advice or feedback from a supervisor or colleague, does not need to be described in this statement of contribution (but could be listed in acknowledgements). The

acknowledgments should recognise the contributions (reagents, training, advice, feedback, support etc.) of others to the project. The introduction aims and hypothesis sections should define the problem being examined and place it in the context of published work in the area without being a complete review of the literature. It should identify the limitations of the literature and areas of controversy and give clear and valid aims and hypotheses. The methods should be appropriate and valid for the stated aims and be clearly described and fully referenced. The results should reflect a significant body of work including sufficient controls and replicates and analysis of data using appropriate statistical tests. Material needed for a complete understanding or evaluation of the work, but which does not fit well in the manuscript format, should be included as supplementary data. Presentation of the results should be clear and logical and should use figures, tables, etc. The discussion should be relevant to the introduction, methods, and results sections, logical in presentation and scientific content, show critical/creative analysis, place the findings of the study in the context of past studies and have suggestions for future studies. Please note that all work which is integral to the manuscript but was not performed by the Honours student (i.e. was undertaken by another member of the supervisor's and/or co-supervisor's research group) is to be clearly disclosed in the Methods, Results and/or Supplementary Data sections of the Project Manuscript, where appropriate. This work may then be referred to in the Discussion and be assessed in the context of the work undertaken by the Honours student. The referencing style of the project manuscript should also comply with the guidelines set in the "School of Medical Sciences Honours Manuscript - Instructions to Authors". If you exceed the word limit, only the first 5,500 words of the document will be examined.

### ***Supervisor input in manuscript preparation***

Supervisors are expected to assist in developing the written communication skills and scientific understanding of students both prior to preparation and during preparation of the project manuscript. Supervisors are expected to read and provide editorial feedback of the manuscript. The discussion section of the project manuscript is the opportunity for the student to demonstrate the understanding and critical thinking they have developed during the Honours year. Consequently, supervisor feedback is limited to constructive feedback on the structure of the discussion, its strengths and weaknesses, the writing style and guidance on understanding the scientific interpretation. Supervisors can discuss the content with the student, and draw attention to any errors or inconsistencies, but the manuscript discussion section must be the student's own work. Supervisors must not under any circumstances rewrite major sections, phrases or sentences for the student.

### ***Reflection summary***

In addition, students are expected to write a one-page summary of their research experience to demonstrate reflective practice and awareness of research and professional skills, developed over the course of the Honours year. Skills developed include information acquisition, evaluation and synthesis, analytical thinking, written and communication skills. This would also provide an opportunity for students to reflect on their strengths or weaknesses in the role as a researcher. This one-page reflection is NOT included in the word count.

**Due:** See timetable (late penalties apply)

**Length:** 5,000 words (+/- 10%)

**Copies:** One PDF electronic copy must be submitted via Turnitin© on Moodle.

### **Final Seminar**

The final seminar is a 12-minute presentation with 8 minutes of questions. The presentation should largely cover the results of the research project. A clear, concise and appropriate introduction should be provided which identifies the limitations of the literature and areas of controversy. Clear and valid aims and hypotheses should also be stated. The results should reflect a significant body of work including sufficient controls and replicates and analysis of data using appropriate statistical tests. The specific contribution of the student to the results,

should be included either on the relevant slide/s, or as a single Statement of Contribution slide at the end of the presentation (see description of “Statement of Contribution” under Project Manuscript and in the “Instructions to Authors” section). Presentation of the results should be clear and logical and should use figures, tables, etc. The significance of any important findings should be addressed, and appropriate conclusions made. The results of the study should be placed within a broader context and suggestions should be made for future experiments. The seminar should have clear and logical flow, good pace (i.e. neither hurried nor laboured) and use good visual quality slides and/or overheads. The student should demonstrate understanding of the questions raised during question time by giving appropriate answers. Each student’s final seminar presentation will be assessed by academics from the audience and the dedicated Examiners 1 and 2. Dedicated Examiners 1 and 2 are expected to attend and mark the students they have agreed to examine (see ‘Guidelines for Examination’).

Date: See timetable

Venue: TBC (either live-online or face-to-face depending on COVID restrictions)

Length: 12-minute presentation, 8-minute question time

### **Re-submission of assessment tasks**

Assessment task submissions may be revised/updated up to the submission deadline. Once the deadline for an assessment task has passed, no re-submissions will be permitted. It is essential that students carefully check their submission before the deadline to ensure that they submitted the correct version and that all the required sections were included.

### **Adjudication of marks by a third assessment**

For the literature review and project manuscript assessments, if the marks received from the two examiners are different by more than 10 marks, an assessment from a third examiner will be obtained. The average of all three marks will then be used. If there are serious discrepancies between the three marks obtained, the Honours Committee will adjudicate.

### **Student contact with examiners**

The identity of examiners is not confidential. However, students must not contact their examiners regarding assessment tasks, or to ask about marks or feedback received. Students may contact their mentor to discuss any issues relating to marks/feedback.

### **Guidelines for Submitting Drafts to Supervisors and Data Storage Regulations**

Drafts of the literature review and project manuscript, and copies of the presentation for the introductory and final seminar are expected to be submitted to the supervisor at least 2 weeks prior to the final submission deadline or time of presentation for review, respectively (individual supervisor may have additional expectations and you should discuss this when preparing your negotiated expectation and milestones document). Data generated over the course of the research project must be stored securely and must be accessible to the supervisor at all times throughout the Honours candidature. Research data storage needs to comply with UNSW data storage guidelines (see also “Data Confidentiality” in the Course Outline).

### **Student/supervisor progress report**

A short report (maximum of two pages) will need to be provided jointly by the student and supervisor and submitted online via Moodle, approximately halfway through the Honours year (see timetable). The purpose of this report is to ensure the student is progressing as expected and key milestones identified at the start of the year have been met. This is also an opportunity to identify any issues that might impact the honours project and to adjust/add new milestones to ensure successful completion of the project. A progress report template will be available on Moodle. For more information, please refer to the ‘Guidelines and Expectations for Honours Supervision’ document.

## Research Performance & Seminar Engagement

**Research Performance:** Supervisors are expected to provide formative assessments on the level of research skill development that the student has attained both mid-year and at the completion of the Honours year. These assessments will be based on student's research performance including; motivation and organisational skills, research (laboratory) skills, note keeping, critical analysis and communication skills. These assessments are for feedback only and do not contribute to the student's overall course mark. A copy of the mid-year formative assessment should be included with the progress report that will be submitted to Moodle by the student. The end-of-year assessment should be completed by the primary supervisor within 2 weeks of the final seminar and sent to the student by email copied to SOMSHonours@unsw.edu.au.

**Seminar Engagement:** Students are required to attend relevant seminars, which include those of your Research Institute/Division or Department, as well as the monthly SoMS seminars. Students must keep a seminar notebook that records details about at least 12 seminars attended throughout the year, including date, title and presenter, a minimum of 1 page (but can be more) of notes of the main points of the seminar, including a small labelled "Reflections" paragraph (1-2 sentences) indicating what specific generic aspect of research and its communication was learnt from the seminar. The seminar notebook must be written-up during the actual seminar and should be available for viewing by the supervisor or mentor at any time throughout the year. Students who are unsure about which departmental seminar they should attend should speak with their supervisor about which seminar series is most suitable.

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## GUIDELINES FOR SUPERVISION

All School of Medical Sciences (SoMS) honours projects must have a supervision team comprised of a primary and co-supervisor. The primary supervisor and co-supervisor must have a Masters degree by research, PhD or medical degree with research experience (unless specifically exempted by the Committee).

**Primary supervisors** must have a UNSW academic appointment or conjoint title with the Faculty of Medicine and Health. The primary supervisor must have supervised or co-supervised (to completion) at least one SoMS Honours or postgraduate research student, or a student in a similar Honours or postgraduate research program.

**Co-supervisors** must have a UNSW academic appointment, conjoint or adjunct title, or post-doctoral research position with the Faculty of Medicine and Health. The SoMS Honours Committee may also approve co-supervisors that are established collaborators on the research project and who are: visiting academics in the Faculty of Medicine and Health; academic, conjoint or adjunct appointments with other UNSW faculties; or who are academics at other Australian universities.

**Associate supervisors** may be appointed to play a role in the training and supervision of the student in the laboratory. This role can be undertaken by postdoctoral researchers. Postgraduate students cannot take on the role of associate or co-supervisor.

Primary/Co/Associate supervisors in a close personal relationship must declare this to the Honours Convenor, who will then appoint an additional independent, School supervisor.

All supervisors who are new to the SoMS Honours course are expected to attend the supervisors' induction.

Given the time and energy commitments needed to effectively supervise students, primary supervisors will generally have only one Honours student. However, experienced supervisors may be allowed additional students, up to a maximum of four, after providing evidence to the Honours Committee of a successful track record of supervision in SoMS and justification of how they can effectively supervise the students. **Supervisors are required to confirm, prior to the commencement of the project, that they are financially able to support the project**

**for the duration of the Honours year and that all ethics and other approvals required for the project have been obtained.**

Supervisors should bear in mind three important points when proposing an Honours project. Firstly, Honours is only an introduction to research so expectations should be realistic. Secondly, the proposed project needs to yield results within the period of the Honours “year”; and finally, the Honours year is, in fact, not a full year but only six months of research activity plus approximately two months to produce and submit a Literature Review and a Project Manuscript.

Supervisors are required to attend the Introductory and Final Seminars of their Honours student(s) in order to be aware of their student's performance. Please see the timetable for the precise dates of the assessments. Supervisors are responsible for ensuring that their student(s) meet the assessment deadlines of the Honours course, including ensuring attendance at the seminars and timely submission of Literature Review and Project Manuscript, for which late submission penalties exist (see “Penalties” section). Supervisors should also ensure that their student(s) attend the School/Department/Institute research seminars (throughout the year). Supervisors are asked to regularly review the students’ Seminar Notebooks ensuring that they are attending at least 80% of relevant seminars and taking notes and reflecting on selected seminars throughout the year (see “Research Performance and Seminar Engagement” section). Supervisors should also regularly check up on the students’ laboratory books to ensure experimental details and protocols are being effectively recorded.

The **Primary Supervisor** is responsible for the overall supervision of the research project and providing feedback for all assessment tasks. Primary supervisors take responsibility for training students in relevant techniques, guiding theoretical aspects and in their scientific approach. Primary supervisors are expected to be contactable and able to provide detailed and timely feedback in the weeks prior to the due date for the literature review, introductory seminar, project manuscript and final seminar. If the primary supervisor is absent during these critical time periods, a co-supervisor must be present. Supervisors are expected to provide formative assessments of their student(s) performance mid-year, using the “Research Performance and Seminar Engagement” assessment rubric that is to be submitted by the student along with their mid-year progress report. Supervisors should also provide a final formative assessment of their student(s) using the “Research Performance and Seminar Engagement” assessment rubric at the end of the Honours project. These assessments are for feedback purposes only. Primary supervisors may also be asked to be an Examiner of another SoMS honours student, and this role is part of the responsibility of supervision of a SoMS Honours student.

The **Co-Supervisor** has the same responsibilities as the primary supervisor and may contribute to a specific aspect of the project (<50%) or supervise the overall project jointly (50%) with the primary supervisor. Co-supervisors are expected to be contactable and able to provide feedback in the weeks prior to the due date for the literature review, introductory seminar, project manuscript and final seminar, especially if the primary supervisor is absent during these times. Co-supervisors should be able to provide advice in instances when the student and primary supervisor may disagree on how the project is running.

A **School Supervisor** is required when neither the primary supervisor nor co-supervisor has an appointment in the School of Medical Sciences (staff or conjoint) nor sufficient prior experience in the SOMS honours program. In these instances, the school supervisor will help and advise on the expectations; e.g. style, etc. required for Honours assessment tasks within the School of Medical Sciences. A school supervisor will also be appointed when the supervisor and co-supervisor have a close personal relationship, in these instances to provide an additional impartial adjudication if conflicts between the student and supervisors arise. The school supervisor does not need to be involved in the research project but can be if appropriate.

## GUIDELINES FOR EXAMINATION

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Each student will have (at least) two examiners. Examiner 1 will be nominated by the supervisor for approval by the Honours Committee. Examiner 2 will be appointed/confirmed by the Honours Committee from amongst the cohort of supervisors or from the SoMS academic staff.

Examiners with readily identifiable conflicts of interest should not be nominated. Examiners are asked to declare that they have no conflict of interest with the candidate, supervisor, or the project. Potential examiners who should be excluded include those: (i) who have a current collaboration with the supervisor on the research area of the project or have published in the last three years or currently hold a grant with the supervisor on the research area of the project, or (ii) have substantial direct involvement in the student's work or (iii) have a current or previous personal relationship with the supervisor or student. Those potential examiners who have collaborations/publication/grants with the supervisor in a different area of research to that of the student's project may be an examiner, however, they are asked to declare this conflict. No reciprocal examiners are allowed (e.g. research group A and research group B examine each other's students) and the examiner must be from outside the research group). The appropriateness of the examiner will then be assessed by the Honours Committee.

All examiners who are new to the SoMS Honours course are expected to attend the examiners' induction.

Examiners are expected to attend the Introductory Seminars and Final Seminars of the students they agreed to examine (the specific time and date for each student's presentation will be posted on the SoMS website). Examiners may also be asked to examine other students presenting in the same seminar session therefore, it is expected that examiners attend the entire session (typically 5-6 presentations). **Note:** Examiners who are unable to attend these seminars should provide two questions and the answers such that the session chair can ask those questions.

Examiners are required to fill out the assessment forms, on each occasion of providing their grades, for the Literature Review and Project Manuscript, and for the Introductory and Final Seminars. Dedicated examiners are required to have assessed the Project Manuscript prior to attending the Final Seminar. Feedback regarding the Literature Review should be provided for the student to use in their writing of the Project Manuscript.

To standardise marking, examiners grade students using the standards based assessment rubrics. A completed example will be circulated to examiners along with the assessment rubrics. Examiners should circle or mark the relevant levels attained for each criterion and provide a score (/10). Incomplete assessment rubrics may be considered invalid. For the Literature Review and Project Manuscript, examiners should also provide feedback by giving specific comments on strengths, weaknesses and suggestions for improvement.

## PENALTIES

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Failure to submit assessments (Literature Review and/or Project Manuscript) on time will result in a daily penalty of 5% of the total marks of the assessment item being applied, except where an extension to the deadline has been applied for and approved by the Honours Convenor. If the assessment has not been received within 1-week of the submission date, a zero grade will be assigned to that assessment item.

Application for an extension must be made online according to the UNSW Special Consideration Application process (<https://student.unsw.edu.au/special-consideration>). Special consideration will only be granted in exceptional circumstances. In addition, a 1% penalty of the total Honours mark may be imposed where a student fails to attend at least 80% of seminars. These include the SoMS Seminars and Departmental and/or Research Institute/Lab Group seminars. You are expected to sign off your attendance at these events.

If a student is clearly not meeting the responsibilities and expectations set out in the Course Outline, Student Code of Conduct, the Honours Enrolment Form or the Guidelines and Expectations for Honours Supervision, a complaint to the Student Misconduct and Integrity Unit will be made by the honours committee in line with the Student Misconduct Procedure. An overview of the complaint handling process is set out in Appendix A of the Student Misconduct Procedure and the penalties which the University may apply for a breach of the Student Code are given in Appendix B.

## **HONOURS GRADES**

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**H1**, Honours Class 1, 85 or greater.

Work of superior quality in all aspects of research, scientific writing, and oral presentation, demonstrating the ability to organise information in a clear and concise manner, the integration of information from a wide range of sources and containing clear examples of excellent critical evaluation.

**H2:1**, Honours Class 2 Division 1, 75-84.

Work of very good quality in all aspects of research, scientific writing, and oral presentation, but showing lesser ability to organise information in a clear and concise manner, integrate information from range of sources and critically evaluate the literature and research data.

**H2:2**, Honours Class 2 Division 2, 65-74.

Good quality in all aspects of research, scientific writing, and oral presentation but with inadequacies in understanding, critical skills, organisation and presentation.

**H3**, Honours Class 3, 50-64.

Adequate quality work with significant deficiencies in understanding, critical skills, organisation and presentation.



## **School of Medical Sciences Honours Manuscript - Instructions to Authors**

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*These instructions are adapted from the Uniform Requirements for Manuscripts Submitted to Biomedical Journals, the British Journal of Pharmacology, the Journal of Anatomy, the Journal of Pathology and the Journal of Physiology.*

Project Manuscripts must include:

1. Title Page
2. List of abbreviations
3. Abstract
4. Statement of Contribution
5. Acknowledgements
6. Introduction
7. Methods
8. Results
9. Discussion
10. References
11. Supplementary data (optional)
12. Reflective summary

Figures and Tables should be integrated at the appropriate places in the text.

### Title Page

**Title:** The title should contain no more than 150 characters (including spaces) and clearly indicate the subject matter of the paper.

**Authors:** The author's name in full and the name and addresses of the department(s) and institution(s) to which the work should be attributed.

**Running Title:** A running title containing no more than 50 characters (including spaces) is required.

**Key Words:** Three to five key words should be provided.

**Word Count:** The word count (excluding the abstract, title page, statement of contribution, acknowledgments, headings, in-text citations, reference list, and figure legends etc) should be listed.

### Abbreviations

List all abbreviations used.

### Abstract

An abstract of up to 250 words should follow the title page. The abstract should provide the background for the study, experimental approach, major findings and conclusions. It should be understandable without reference to the rest of the paper. References may not be cited.

### Statement of Contribution

The statement of contribution should specifically identify the components of research undertaken by the student. To do this, indicate which aspects of the research results included in the project manuscript were done in collaboration with, or undertaken by, other members of the research group or by external collaborators. Examples of this may include (but not limited to); some surgeries being undertaken by more experienced lab colleagues, tissue cultures being maintained or processed by lab assistants, survey response or patient databases generated or analysed in whole or partly by others, a subsection of the same experimental data obtained by lab colleagues, nucleotide sequences or gene mutations being outsourced to an external company. Seek advice from your supervisor or mentor if you are unsure about

this. In the case of data / results contributed by others, this also needs to be clearly attributed in the appropriate methods or results section of the manuscript.

### Acknowledgements

The author should acknowledge those who have provided funds, reagents, technical guidance and/or training and scientific advice.

### Introduction

The introduction should give a clear account of the background for the study, and the research objective or hypothesis tested should be stated. The introduction should be understandable to a non-specialist.

### Methods

The methods must be described in sufficient detail to allow the experiments to be interpreted and repeated by an experienced investigator. Give references to established methods, provide references and brief descriptions for methods that have been published but are not well known; describe new or substantially modified methods. Provide details of ethics approvals. Identify the apparatus, drugs and chemicals used, give the manufacturer's name and address in parentheses after each item.

Describe the statistical methods used and define all statistical terms, abbreviations, and symbols. Any transformation of data needs to be clearly described. Specify the computer software used for the analysis. Where appropriate, describe your selection of the subjects (patients or laboratory animals, including controls), identify the age, sex, strain, number used and other important characteristics of the subjects.

### Results

Present your results in logical sequence in the text, tables, graphs and illustrations. The description of the experimental results should be succinct, but in sufficient detail to allow the experiments to be analysed and interpreted by the reader. Where group data is presented, the averaged or median results with some measure of variability (standard deviations, confidence intervals, standard errors of the means), along with the number of observations, and statistical significance, should be given as appropriate. The rationale for performing the experiments may be briefly mentioned in the Results section, but conclusions or interpretation of results should not be presented. Do not repeat in the text all the data that is presented in the tables or graphs. Headed paragraphs maybe used to aid in the presentation of the results.

A useful checklist from the [British Journal of Pharmacology](#) provides guidance for the transparent reporting and scientific rigour of preclinical research results.

Work which is integral to the manuscript but that was performed by another member of the supervisor's and/or co-supervisor's research group can be included in results and discussed but is to be clearly disclosed in the Statement of Contribution and clearly attributed in the Methods or Results as appropriate.

### Discussion

In the discussion explore possible mechanisms or explanations for the findings of your study, compare and contrast your results with those from other relevant studies, state the limitations of the study, and explore the implications of the findings for future research. Do not repeat in detail data or other material given in the Introduction or the Results sections. The main conclusions should be conveyed in the final paragraph.

### References

References are to be formatted using the convention found in *Nature Medicine*. In the text, references to other works should be a superscript Arabic numeral at the end of the relevant sentence with no space (for example: "...downstream signalling<sup>1</sup>."). If two sources are cited, the superscript numbers should be separated by a comma (for example "...differentiation and

exhaustion<sup>7,8</sup>.”), and if more than two sources are cited, the range of the superscript numbers should be indicated using a hyphen (for example: “...demonstrated previously<sup>4-7</sup>.”). References to unpublished observations or personal communications should be mentioned in the text only, and not included in the list of references. Direct reference to original research sources should be used whenever possible.

The reference list at the end of the manuscript must be arranged numerically in the order in which they appear in the manuscript. All authors should be included in reference lists unless there are more than five, in which case only the first author should be given, followed by 'et al.'. Authors should be listed last name first, followed by a comma and initials (followed by full stops) of given names. Article titles should be in Roman text, the first word of the title should be capitalized, and the title written exactly as it appears in the work cited, ending with a full stop. Book titles should be given in italics and all words in the title should have initial capitals. Journal names are italicized and abbreviated (with full stops) according to common usage. Volume numbers and the subsequent comma appear in bold.

The format for references to papers<sup>1</sup> and books<sup>2</sup>, and to chapters in books<sup>3</sup>, is as follows:

1. Lipp, P., Egger, M. & Niggli, E. Spatial characteristics of sarcoplasmic reticulum Ca<sup>2+</sup> release events triggered by L-type Ca<sup>2+</sup> current and Na<sup>+</sup> current in guinea-pig cardiac myocytes. *J. Physiol.* **542**, 383-393 (2002).
2. Adrian, E.D. *The Mechanism of Nervous Action*, (Humphrey Milford, London, 1932).
3. Buchan, A.M.J., Polak, J.M., Gregor, M., Ghatei, M.A. & Bloom, S.R. Development of regulatory peptides in the human fetal intestine. in *Gut Hormones* (eds. Bloom, S.R. & Polak, J.M.) 119-124 (Churchill Livingstone, Edinburgh, 1981).

For those articles published on online ahead of print, that have not been assigned full publication details the DOI (digital object identifier) should be used. See example below<sup>4</sup>:

4. Lipp, P., Egger, M. & Niggli, E. Spatial characteristics of sarcoplasmic reticulum Ca<sup>2+</sup> release events triggered by L-type Ca<sup>2+</sup> current and Na<sup>+</sup> current in guinea-pig cardiac myocytes. *J. Physiol.*, DOI: 10.1113/jphysiol.2001.013382.

An endnote file will be available to download from Moodle, but the ultimate responsibility for adhering to prescribed format rests with the student.

### Tables

Each table should be given on a separate page integrated at an appropriate position within the text. Tables are numbered consecutively according to the order in which they have been first cited in the text. Tables should be numbered with Arabic numerals and the number should be followed by a brief descriptive title at the head of the table. Tables should be self-explanatory, with necessary descriptions provided in footnotes underneath the table. Give each column a short or abbreviated heading.

### Figures and Legends

Figures should be numbered consecutively according to the order in which they have been first cited in the text. Figure legends can appear below the figure and/or on a separate page. Each figure should be given a title and a legend that explains the figures in sufficient detail that, whenever possible, they can be understood without reference to the text. All symbols and abbreviations should be explained within the legend. If a figure has been published, acknowledge the original source.

### Supplementary Data

Material needed for an in-depth evaluation of the work, but which does not fit well in manuscript format, should be included as Supplementary Data. These data should only be included if they provide material that further supports or substantiates the results presented or summarized in the main manuscript but would not be able to readily fit in the main text. They should be summarised and referred to in the main text and should not be essential for the understanding of the manuscript nor for the major conclusions. Supplementary data should be as brief as possible and included as a separate section at the end of the project manuscript (after the References section).

### Reflective summary

A one-page summary reflecting on the research and professional skills developed over the course of the Honours year. Skills developed could include information acquisition, evaluation and synthesis, analytical thinking, and written and oral communication skills. This could consider strengths or weaknesses, how you have developed and should be supported by specific examples. This one-page reflection is NOT included in the word count.

### Abbreviations, Units and Symbols

Use only standard abbreviations; the full term for which an abbreviation stands should precede its first use in the text. SI units and symbols should be used for physicochemical quantities. Gene names and loci should be in italics, and proteins should be in Roman font. Virus nomenclature (and acronyms) should follow the guidelines of the International Committee on the Taxonomy of Viruses (ICTV). Chemical nomenclature should follow the International Union of Pure and Applied Chemistry (IUPAC) definitive rules for nomenclature. Pharmacological units should follow the guidelines given in the British Journal of Pharmacology.

### Formatting and Technical Instructions

Text should be Times Roman, 12-point font, with 1.5 line spacing throughout the manuscript. Margins should be 3 cm on the left-hand side, 2 cm on the right-hand, 2 cm at the top and 2 cm at the bottom. The manuscript should be 5000 words (+/- 10%) excluding the abstract, acknowledgements and references, tables, figures, legends, in-text citations, supplementary data and reflective summary.