



School of Medical Sciences

# School of Medical Sciences Honours

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

(48 UOC)

Term 3, 2019

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Please read this manual/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 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 Convenor**

Dr Cristan Herbert

[c.herbert@unsw.edu.au](mailto:c.herbert@unsw.edu.au)

Room 417, Level 4, Wallace Wurth Building East

Ph: 9385 8679

### **SoMS Honours Co-convenor**

Dr Greg Smith

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Room 326, Level 3, Wallace Wurth Building East

Ph: 9385 8075

### **SoMS Honours Committee Members:**

<b>Name</b>	<b>Phone</b>	<b>E-mail</b>
Prof Ken Ashwell	9385 2482	<a href="mailto:k.ashwell@unsw.edu.au">k.ashwell@unsw.edu.au</a>
Dr Blake Cochran	9385 1599	<a href="mailto:b.cochran@unsw.edu.au">b.cochran@unsw.edu.au</a>
Dr Trevor Lewis	9385 1102	<a href="mailto:t.lewis@unsw.edu.au">t.lewis@unsw.edu.au</a>
A/Prof Lu Liu	9385 8762	<a href="mailto:lu.liu@unsw.edu.au">lu.liu@unsw.edu.au</a>
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Prof Nigel Turner	9385 2548	<a href="mailto:n.turner@unsw.edu.au">n.turner@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 when 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 principle 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 is in the form of experimental techniques, protocols, technical tips 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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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.

## **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, please tell your supervisor 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. You should document your completion of these H&S activities and discuss specific training and other requirements with your supervisor.

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.

- H&S Awareness training and Ergonomics training (mandatory for all students)
- Lab Safety Awareness for students & Green Lab training (mandatory for all students undertaking laboratory work)
- PC2 Biosafety training (mandatory for all students who will be working in a PC2 laboratory)
- Other training – Introduction to Radiation, Animal Handling/Ethics, Gene Technology, 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 project they will be working on. Further information is available on the [H&S Protocols & Guidance webpage](#).

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

## STUDENT RISK ASSESSMENT

SoMS Research  
Laboratory

Student Risk Assessment

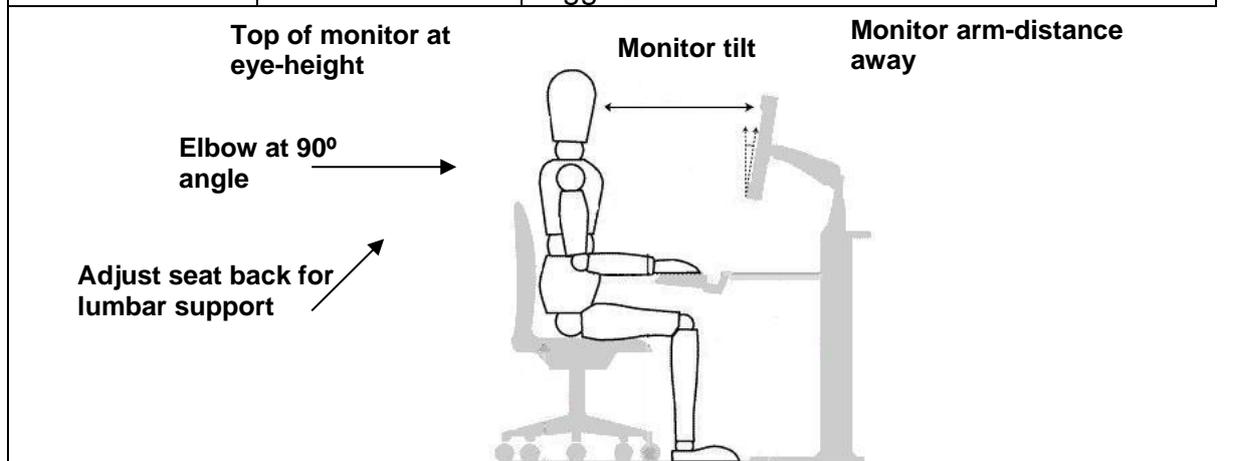


**UNSW**  
SYDNEY

For use of computers in  
SoMS Office areas in  
Wallace Wurth, 2019

### 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 3, 2019**

<b>Component</b>	<b>Date</b>	<b>Venue for Seminar or Place for Submitting Assessment</b>
Expectations and milestones document	27/09/2019, 4pm	Online on Moodle
Research Skills	Online activities	Moodle
Literature Review	28/10/2019, 4pm	Online via Turnitin© on Moodle
Introductory Seminars	26/11/2019 - 28/11/2019	Final dates & venue TBC
Progress Report	23/03/2020, 4pm	Online on Moodle
Project Manuscript Submission	20/07/2020, 4pm	Online via Turnitin© on Moodle
Final Seminars	11/08/2020 – 14/08/2020	Final dates & venue TBC

## **NEGOTIATED EXPECTATIONS AND MILESTONES**

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At the start of the year, students and their supervisors should discuss and document the expectations and milestones of 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 your Moodle page and must be completed by the due date indicated on Moodle.

## **SCIENTIFIC ETHICS**

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Students should 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 excerpts of this code are given below.

### **General Principles of Responsible Research**

1.6 Maintain high standards of responsible research: Researchers must foster and maintain a research environment of intellectual honesty and integrity, and scholarly and scientific rigour. Researchers must: respect the truth and the rights of those affected by their research, manage conflicts of interest so that ambition and personal advantage do not compromise ethical or scholarly considerations, adopt methods appropriate for achieving the aims of each research proposal, follow proper practices for safety and security, cite awards, degrees conferred and research publications accurately, including the status of any publication, such as under review or in press, promote adoption of this Code and avoid departures from the responsible conduct of research, conform to the policies adopted by their institutions and bodies funding the research.

1.7 Report research responsibly: Researchers should ensure that research findings are disseminated responsibly.

1.8 Respect research participants: Researchers must comply with ethical principles of integrity, respect for persons, justice and beneficence. Written approval from appropriate ethics committees, safety and other regulatory bodies must be obtained when required.

1.9 Respect animals used in research: Researchers must respect the animals they use in research, in accordance with the *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes*

1.10 Respect the environment: Researchers should conduct their research so as to minimise adverse effects on the wider community and the environment.

1.11 Report research misconduct: A researcher who considers that research misconduct may have occurred must act in a timely manner, having regard to the institution's policies.

### **Management of Research Data and primary materials**

2.5 Retain research data and primary materials: When considering how long research data and primary materials are to be retained, the researcher must take account of professional standards, legal requirements and contractual arrangements.

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

2.6 Manage storage of research data and primary materials: Researchers must manage research data and primary materials in accordance with the policy of the institution. To achieve this, researchers must:

- Keep clear and accurate records of the research methods and data sources, including any approvals granted, during and after the research process.
- Ensure that research data and primary materials are kept in safe and secure storage provided, even when not in current use.

2.7 Maintain confidentiality of research data and primary materials: Researchers given access to confidential information must maintain that confidentiality. Primary materials and confidential research data must be kept in secure storage. Confidential information must only be used in ways agreed with those who provided it. Particular care must be exercised when confidential data are made available for discussion.

### **Responsibilities of Research Trainees**

3.7 Seek guidance: A research trainee must demonstrate a professional attitude towards the research. Frequent meetings with the supervisor are important, requiring the cooperation of both parties. The trainee should not wait until approached by the supervisor but should play an active part in maintaining an appropriate schedule of meetings.

3.8 Undertake induction and training: A research trainee should complete all induction and training courses as soon as practical after starting research in an institution.

### **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 such as on Twitter, Facebook, etc.

## ASSESSMENT

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Literature Review	15 %
Introductory Seminar	10 %
Project Manuscript	50 %
Final Seminar	15 %
Research Performance & Seminar Engagement	10 %

### 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 which are relevant to the project being undertaken. It should contain an introduction, and aims, 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 adequately 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 are to be included in the literature review. The word count for the literature review excludes diagrams, tables, figures, in-text citation, final reference list, etc. which should be integrated into the appropriate sections of the text. The general and referencing style should follow the "School of Medical Sciences Honours Manuscript - Instructions to Authors". 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.

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: TBA

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, acknowledgments 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).

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 acknowledgments). The acknowledgments should recognise the contributions (reagents, training, advice, feedback, support etc.) of others to the project. The brief 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 as a single Statement of Contribution slide (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: TBA

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

### **Adjudication of Marks by a Third Assessment**

If the literature review and project manuscript assessments are seriously and justifiably discrepant, the Honours Convenor will obtain assessments from additional staff members.

### **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. Data that were generated over the course of the research project have to be stored on the UNSW server and have to 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 will provide an assessment on the level of research skill development that the student has attained both mid-year (formative) and at the completion of the Honours year (summative). This assessment will be based on student's research performance including; motivation and organisational skills, research (laboratory) skills, note keeping, critical analysis and communication skills.

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.

Supervisors will complete the "Research Performance and Seminar Engagement (formative)" assessment rubric approximately half way through the Honours year. The completed rubric is to be submitted by the student along with the progress report (see timetable). Supervisors will also submit a "Research Performance and Seminar Engagement (summative)" assessment rubric at the end of the Honours year. Only one marksheet should be provided by the primary supervisor after consultation with other supervisors as appropriate.

## **GUIDELINES FOR SUPERVISION**

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Primary supervisors of School of Medical Sciences (SoMS) Honours students must have an academic appointment (paid or conjoint) through the Faculty of Medicine. Co-supervisors or 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 staff; however, postgraduate students cannot take on the role of the 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 associate supervisor.

Supervisors who are new to the SoMS Honours program should view the online induction via Blackboard Collaborate. A link to the recording (with updated assessment dates/times) will be forwarded to supervisors at the start of T3.

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 a second student, after providing evidence to the Honours Convenor of a successful track record of supervision in SoMS and justification of how they can effectively supervise two 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 6 months of research activity plus approximately 2 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 program, 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.

Supervisors are required to assess their student(s) performance mid-year, using the “Research Performance and Seminar Engagement (formative)” assessment rubric that is to be submitted by the student along with their mid-year progress report. Supervisors will also assess their student(s) using the “Research Performance and Seminar Engagement (summative)” assessment rubric and submit this at the end of the Honours project.

Primary supervisors should have prior primary or co-supervision experience of a SoMS Honours or postgraduate research student, or of a student in a similar Honours or postgraduate research program.

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 student.

## 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.

Examiners who are new to the SoMS Honours should view the online induction via Blackboard Collaborate. A link to the recording (with updated assessment dates/times) will be forwarded to examiners at the start of T3.

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). **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 try to standardise marking, examiners are asked to grade students using the rubric assessment tables. A completed example will be circulated to examiners along with the assessment rubrics. Please circle or mark the relevant levels attained for each criterion and base your score (/10) on these levels. Please provide feedback for the Literature Review and Project Manuscript 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 to the Honours Convenor via Special Consideration procedures and will only be granted in exceptional circumstances. In addition, a 1% penalty of the total Honours mark might be imposed if students fail 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 student misconduct procedure may be initiated by the honours committee. In this event, the convenor will initiate an investigation based on information provided and allow the student to address the points raised. The outcome of this investigation will be discussed with the honours committee and an appropriate resolution will be determined. If the issue continues, this process will be undertaken once more before the Head of School will take over the misconduct procedure. In a worst-case scenario, a student may be excluded from the program.

## **HONOURS GRADES**

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85 or greater (H1 Honours Class 1)

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.

75-84 (H2:1 Honours Class 2 Division 1)

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.

65-74 (H2:2 Honours Class 2 Division 2)

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

50-64 (H3 Honours Class 3)

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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(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. Abstract, 3. Statement of Contribution, 4. Acknowledgements, 5. Introduction, 6. Methods, 7. Results, 8. Discussion, 9. References, 10. Supplementary Data (optional). Figures and Tables should be integrated at 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, statement of contribution, acknowledgments, references and figure legends 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.

### 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. Specify the computer software used. 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.

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 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. For journal articles, the authors' names are followed by the article title, Journal name in italics, volume number in bold, page numbers and the year in brackets. All authors should be listed for papers with up to five authors; for papers with more than five authors, only the first author name should be listed followed by *et al*.

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 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/or submitted as a separate pdf via Moodle.

### 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. 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.