SOMS4888 (Full-time)
SOMS4884 (Part-time)
School of Biomedical Sciences
Honours

Course Outline
Term 3, 2023

School of Biomedical Sciences

Faculty of Medicine & Health

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1. Staff

Course Convenors	Email:	Consultation time and locations	Contact Details
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Dr Trevor Lewis	t.lewis@unsw.edu.au	By email appointment	T: 9065 9730
Administrative officer			
Mr John Redmond	SBMShonours@unsw.edu.au	By email appointment	T: 9065 9557

Note: All emails relating to School of Biomedical Sciences (SBMS) Honours should be sent to MED SBMShonours@unsw.edu.au in the first instance.

1.1. SBMS Honours Committee

The School of Biomedical Sciences (SBMS) Honours Committee is comprised of representatives of the academic disciplines of the School of Biomedical Sciences and affiliated institutes. The Honours Committee oversees the assessment and grading of the Honours projects and makes recommendations to the Deputy Head (Education) 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.

SBMS Honours Committee Members:

A/Prof Ingvars Birznieks	i.birznieks@unsw.edu.au
A/Prof Belamy Cheung	bcheung@ccia.org.au
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Dr David Jacques	d.jacques@unsw.edu.au
A/Prof Yanchuan Shi	y.shi@garvan.org.au

1.2. SBMS 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.

2. Course information

Units of credit: 48 UOC, across three terms (16 UOC per term).

Students must have qualified for or be a graduate with a Bachelor of Science or Bachelor of Medical Science, or completed 144 units of credit (UOC) in a degree program with an embedded honours (e.g. Bachelor of Advanced Science (Honours) at UNSW). Students should have a major or specialisation in Anatomy, Physiology, Pathology, Pharmacology, Exercise Physiology, or other relevant biomedical science discipline. Students must have a minimum overall weighted average mark (WAM) of 65 for level 1 to 3 courses, or if the overall WAM is between 60 and 65 then a level 3 WAM of at least 65 is required and acceptance by the proposed supervisor. Students in the Bachelor of Advanced Science (Honours) program must meet the progression requirements of the program.

2.1. Course summary

The School of Biomedical Sciences Honours course is run over three terms. It provides advanced research training in medical science research, including the disciplines of Anatomy, Physiology, Pathology, Pharmacology and Exercise Physiology. 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. Assessment tasks will include a research manuscript based on substantial independent research activity. For additional information regarding the course structure and assessment details, please visit the School of Biomedical Sciences website Honours pages, which may be found in the "Course Outline" link in the box below. 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 Biomedical Sciences (SBMS) seminars (UNSW-based students) and Departmental/Research Institute/Lab Group seminars throughout the course.

2.2. Course aims

The main aim of the SBMS Honours 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), cross-faculty seminars (Kensington based students) and Departmental/Research Institute/Lab Group seminars (all year round).

2.3. Course learning outcomes

Course learning outcomes (CLO) are statements that identify the skills, knowledge, and behaviours that students are expected to know and do as a result of learning in the course. The learning outcomes from this course will form the basis for future pursuits in medical research and / or transferable skills that are highly relevant for many other professions. At the successful completion of the SBMS Honours course, students should be able to:

CLO 1. Demonstrate your understanding of relevant research methodologies by applying them appropriately to the research project.

CLO 2. Plan, collect, analyse and interpret qualitative or quantitative data, and reach appropriate conclusions that are supported by evidence.

CLO 3. Demonstrate effective oral and written communication skills in clear and concise presentation of information that is appropriately referenced.

CLO 4. Demonstrate professional skills in planning, time management, teamwork and research integrity.

CLO 5. Interpret and critically evaluate the relevant research literature, to formulate hypotheses and justify discussion, comparisons or conclusions from the research performed.

2.4. Relationship between course learning outcomes and assessments

Course Learning Outcome	Learning Outcome Statement	Related Tasks and Assessment
CLO 1	Demonstrate your understanding of relevant research methodologies by applying them appropriately to the research project.	Project manuscript Final seminar
CLO 2	Plan, collect, analyse and interpret qualitative or quantitative data, and reach appropriate conclusions that are supported by evidence.	Project manuscript Final seminar
CLO 3	Demonstrate effective oral and written communication skills in clear and concise presentation of information that is appropriately referenced.	Literature review Introductory seminar Project manuscript Final seminar
CLO 4	Demonstrate professional skills in planning, time management, teamwork and research integrity.	Milestones and expectations Introductory seminar Progress report Research integrity modules on Moodle Final seminar Literature review Project manuscript
CLO 5	Interpret and critically evaluate the relevant research literature, to formulate hypotheses and justify discussion, comparisons or conclusions from the research performed.	Project manuscript Final seminar

2.5. Contingency planning

All supervisors and students must have a cogent contingency plan for any proposed Honours project to deal with any disruptions that may occur to supply of reagents and materials, and other events that may impact completion of the 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.

3. Strategies and approaches to learning

3.1. Learning and teaching activities

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

The principal form of teaching is based on a research project that is supervised and directed by specialist researchers within UNSW Medicine and Health. Complementary to this, online Research Skills modules have been designed to provide training to Honours students in areas that constitute professional research practice and integrity.

Learning in this course 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.

3.2. Expectations of students

3.2.1. Attendance

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 Biomedical 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.

3.2.2. Health and safety

UNSW aims to provide a physically safe, healthy and secure learning and working environments 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 SBMS 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 UNSW Health & Safety website.

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

3.2.3. Code of Conduct

Students are expected to be familiar with a follow the UNSW Student Code of Conduct and the Australian Code for the Responsible Conduct of Research.[1] 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.

From the Student Code of Conduct, students are required to:

1. Comply with the University's conditions of enrolment
2. Act responsibly, ethically, safely and with integrity
3. Observe standards of equity and respect in dealing with every member of the UNSW community
4. Engage in lawful behaviour

[1] *Jointly issued by the National Health and Medical Research Council, the Australian Research Council and Universities Australia*

5. Use and care for University resources in a responsible and appropriate manner
6. Maintain the University's reputation and good standing

If a student is clearly not meeting the responsibilities and expectations as set out in this course outline, the Student Code of Conduct, the SBMS 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.

3.2.4. Data storage and confidentiality

Data generated during the conduct 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.

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).

3.3. Guidelines for supervision

All School of Biomedical Sciences (SBMS) honours projects must have a supervision team comprised of a primary and co-supervisor. The Higher Education Standards Framework (Tertiary Education Quality and Standards Agency) stipulates that all teaching staff should be demonstrably qualified to teach. Typically, staff should have a qualification at least one level higher than the course of study they teach or equivalent appropriate professional experience. The primary supervisor and co-supervisor must have a Doctorate (PhD), Masters degree by research, or medical degree with research experience (unless specifically exempted by the SBMS Honours 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 SBMS 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 SBMS 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 titles 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 SBMS Honours course are expected to attend the supervisors' induction.

*Given the time and energy commitments needed to effectively supervise students, p*rimary 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 SBMS 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 SBMS honours student, and this role is part of the responsibility of supervision of a SBMS 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 Biomedical Sciences (staff or conjoint) nor sufficient prior experience in the SBMS honours program. In these instances, the school supervisor will advise on the expectations; e.g. style, etc. required for Honours assessment tasks within the School of Biomedical 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.

3.4. Guidelines for examiners

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 SBMS 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 be adjudicated by the Honours Committee.

All examiners who are new to the SBMS 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 SBMS website). Examiners may also be asked to examine other students presenting in the same seminar session and so examiners are expected to 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 complete the online assessment forms, providing marks and feedback, for the Literature Review and Project Manuscript, and for the Introductory and Final Seminars. Nominated 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 mark students using the online standards-based assessment rubrics. A completed example will be circulated to examiners along with the assessment rubrics. Examiners should identify the relevant levels attained for each criterion and provide a score (/10). For the Literature Review and Project Manuscript, examiners should also provide feedback by giving specific comments on strengths, weaknesses and suggestions for improvement.

4. Course schedule and structure

This course is a research focused course, carried out either full-time (SOMS4888) or part-time (SOMS4884). 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 course. The schedule for conducting the planned research is determined by the student and their supervisor within the first three weeks of the first term of the course.

5. Assessment

5.1. Assessment tasks

Component	Length	Weight	Mark	Due Date
Expectations and milestones document	Template	0%	Formative	Week 3 of Term 3 25 Sept 2023, 4:00 pm
Assessment 1: Literature Review	3000 words	20%	100	Week 8 of Term 3 30 October 2023, 4:00 pm
Assessment 2: Introductory Seminar	10 min +5 min	10%	100	22-24 November 2023
Research Skills		0%	Formative	12 February 2024
Progress Report and Research Performance	Template	0%	Formative	Week 6 of Term 1 18 March 2024, 4:00 pm
Assessment 3: Project Manuscript	5000 words	50%	100	Week 8 of Term 2 15 July 2024, 4:00 pm
Research performance & seminar engagement	Template	0%	Formative	26 July 2024
Assessment 4: Final Seminar	12 min +8 min	20%	100	5-7 August 2024

5.1.1. Expectations and Milestones document

At the start of the honours course, students and their supervisors should discuss and document the expectations and milestones of the project with a month-by-month plan for all tasks and experimental aspects of the project. For example, when draft manuscripts are due; when the supervisor will provide feedback on drafts; who will provide training on equipment / techniques and by when; last day of experimental data collection; expectations of the sample size for the data collected. This should also provide an outline of the project and the contingency plans. A template Expectations and Milestones document will be available on Moodle.

Due: Week 3 of Term 3

Submission: One document must be submitted via the assignment link on Moodle.

5.1.2. Research Skills

Each student will be required to complete a range of online activities relating to key research skills, ethics and research integrity. These will be made available and completed via the course Moodle page.

Due: 12 February 2024

5.1.3. 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 "School of Biomedical 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: Week 8 of Term 3, 2023 (late penalties apply)

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

Submission: One PDF must be submitted via Turnitin on Moodle.

5.1.4. 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: 22-24 November 2023

Venue: TBC usually WW LG02 or LG03 (face-to-face presentations)

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

5.1.5. Student/supervisor Progress Report

A short report (maximum of two pages) must be provided jointly by the student and supervisor and submitted online via Moodle, approximately halfway through the Honours course. 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.

Research Performance & Seminar Engagement

At the same time, the supervisor completes the research performance and seminar engagement assessment rubric to provide formative feedback to the student on their performance. The assessment is for feedback only and do not contribute to the student's overall course mark.

Research Performance: Supervisors assesses the level of research skill development that the student has attained. This includes 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, and the SBMS seminar series. Students must keep a seminar notebook that records details of at least 12 seminars attended throughout the year, including date, title and presenter and notes of the main points of the seminar. It must also include a short paragraph (1-2 sentences) labelled 'Reflections', indicating what aspects 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.

The progress report template and assessment rubric will be available on Moodle.

Due: Week 6 of Term 1, 2024

Submission: One document must be submitted via the assignment link on Moodle.

5.1.6. Project Manuscript

The project manuscript is written up in the style of a submission to a scientific journal. The format of the project manuscript is to comply with the guidelines set out in the "School of Biomedical 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 Biomedical 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.

Reflective summary

Students are expected to write a one-page summary of their research experience to demonstrate reflective practice and awareness of the research and professional skills they developed during the Honours course. Skills developed include information acquisition, evaluation and synthesis, analytical thinking, written and communication skills. This is an opportunity for students to reflect on their strengths or weaknesses in the role as a researcher. This one-page reflection is a part of the project manuscript submission but is NOT included in the word count.

Due: Week 8 of Term 2, 2024 (late penalties apply)

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

Submission: One PDF must be submitted via Turnitin on Moodle.

5.1.7. 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: 5-7 August 2024

Venue: TBC Usually WW LG02/LG03 (face-to-face presentations)

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

5.2. Research Performance & Seminar Engagement

Supervisors complete the formative assessment rubric on research performance and seminar engagement to provide feedback to the student on the level of seminar engagement and research skill development attained at the completion of the Honours course. The assessment rubric considers motivation and organisational skills, research (laboratory) skills, note keeping, critical analysis, communication skills and seminar engagement. Supervisors should ask to see the student's seminar notebook to assess the engagement with the seminars. The assessment is for feedback only and does not contribute to the student's overall course mark.

Due: 26 July 2024

Submission: Supervisor sends directly by email to the student and copied to sbmshonours@unsw.edu.au.

Further information

UNSW grading system: https://student.unsw.edu.au/grades

UNSW assessment policy: https://student.unsw.edu.au/assessment

5.3. Assessment criteria and standards

All assessment tasks in the SBMS Honours course are marked using standards-based assessment rubrics. Each assessment rubric has a set of criteria with accompanying statements of the standard of achievement for each grade level. Marks out of 10, corresponding to the level of achievement, are awarded for each criterion. The weighting for each criterion is indicated in the rubric. For the Literature Review and Project Manuscript, examiners can also provide feedback by giving specific comments on strengths, weaknesses, and suggestions for improvement.

All assessment rubrics are available for students to download from the course Moodle site. Students should familiarise themselves with the rubrics to understand how they will be assessed.

Honours grades

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.

5.4. Submission of assessment tasks

The literature review and the project manuscript submissions must be in a portable document format (PDF). This can be created directly from Microsoft Word or other means. All UNSW students have access to Microsoft Office 365, which includes Word. Students can find out more from the myIT web page at https://www.myit.unsw.edu.au/services/students

The requirement for the literature review and the project manuscript to be in PDF is to ensure the formatting and layout of the documents are maintained as expected. The formatting and layout of the documents need to be checked prior to the submission and this is the responsibility of the student.

All assessment tasks are submitted online via the links provided in Moodle.

Late Submission

UNSW has standard late submission penalties as outlined in the UNSW Assessment Implementation Procedure, with no permitted variation. All late assignments (unless extension or exemption previously agreed) will be penalised by 5% of the maximum mark per day (including Saturday, Sunday, and public holidays). For example, if an assessment task is worth 30 marks, then 1.5 marks will be lost per day (5% of 30) for each day it is late. So, if the grade earnt is 24/30 and the task is two days late the student receives a grade of 24 – 3 marks = 21 marks.

Late submission is capped at 5 days (120 hours). This means that a student cannot submit an assessment more than 5 days (120 hours) after the due date for that assessment.

Special Consideration

If you experience a short-term event beyond your control (exceptional circumstances) that impacts your performance in a particular assessment task, you can apply for Special Considerations.

You must apply for Special Consideration **before** the start of your exam or due date for your assessment, except where your circumstances of illness or misadventure stop you from doing so.

If your circumstances stop you from applying before your exam or assessment due date, you must **apply within 3 working days** of the assessment, or the period covered by your supporting documentation.

More information can be found on the Special Consideration website.

If special consideration is granted, an extension is usually provided for written submissions (literature review and project manuscript) and a reschedule assessment is provided for the oral presentations. Alternative outcomes may be provided according to the individual circumstances.

5.5. Feedback on assessment

Feedback on the **literature review, introductory seminar, project manuscript, and final seminar** will be emailed to the student with the individual marks allocated for each criterion in the assessment rubric and specific comments on strengths, weaknesses, and suggestions (where provided) from each of the examiners. Feedback will be provided to the student within five working days of the assessment being submitted by the examiner. Formative feedback on the research performance and seminar

engagement will be provided directly by the supervisor to the student at the date indicated in the assessment schedule.

5.5.1. Re-submission of assessment tasks

Assessment task submissions may be revised/updated up to the submission deadline on Moodle. 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, all the required sections were included, and the formatting is as expected.

5.5.2. 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 10 marks or more, an assessment from a third examiner will automatically 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.

5.5.3. 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.

5.6. Guidelines for submitting drafts to supervisors

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 for review. It is recommended that this is done at least 2 weeks prior to the submission deadline or time of presentation for review, however individual supervisors may have additional expectations and students should discuss this when preparing the negotiated expectations and milestones document.

5.7. Data storage

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).

6. Academic integrity, referencing and plagiarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.

The referencing style used for the literature review and the project manuscript is the numerical reference style of *Nature Medicine*. Details can be found in the ‘School of Biomedical Sciences Honours – Instructions to Authors’ at the end of this course outline.

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits**:** honesty, trust, fairness, respect, responsibility and courage.[2] At UNSW, this means that your work must be your own, and others’ ideas

[2] International Center for Academic Integrity, ‘The Fundamental Values of Academic Integrity’, T. Fishman (ed), Clemson University, 2013.

should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity and **plagiarism** can be located at:

- The Current Students site https://www.student.unsw.edu.au/plagiarism, and
- The ELISE training site https://subjectguides.library.unsw.edu.au/elise
- The 'Working with Academic Integrity' module. The details on how to access this module in Moodle can be found at https://www.student.unsw.edu.au/wwai

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: https://www.unsw.edu.au/planning-assurance/conduct-integrity/conduct-unsw/student-conduct-integrity/student-code-conduct.

7. Administrative matters

Student enquiries should be submitted via student portal https://portal.insight.unsw.edu.au/web-forms/

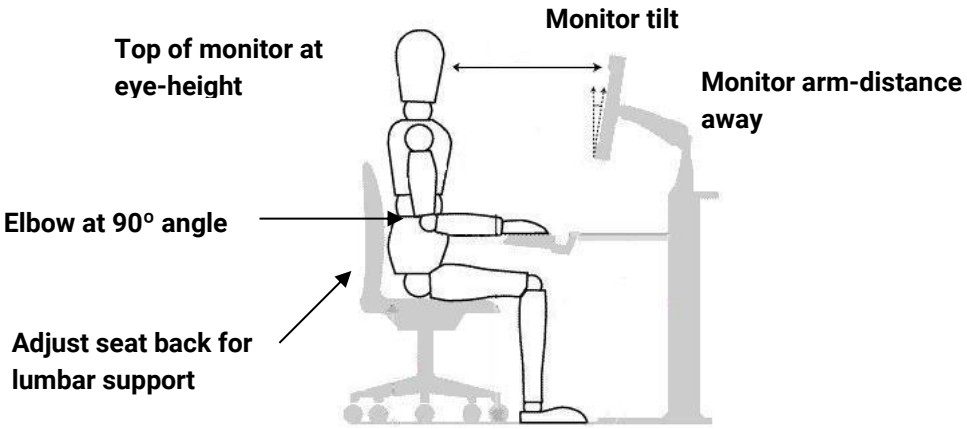
8. Additional support for students

- The Current Students Gateway: https://student.unsw.edu.au/
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills
- *Student Wellbeing and Health* https://www.student.unsw.edu.au/wellbeing
- UNSW IT Service Centre: https://www.myit.unsw.edu.au/services/students
- *UNSW Student Life Hub:* https://student.unsw.edu.au/hub#main-content
- *Student Support and Development:* https://student.unsw.edu.au/support
- *IT, eLearning and Apps:* https://student.unsw.edu.au/elearning
- *Student Support and Success Advisors:* https://student.unsw.edu.au/advisors
- *Equitable Learning Services (Formerly Disability Support Unit):* https://student.unsw.edu.au/els
- *Transitioning to Online Learning* https://www.covid19studyonline.unsw.edu.au/
- *Guide to Online Study* https://student.unsw.edu.au/online-study

9. Student risk assessment

SBMS Research Laboratory Student Risk Assessment	UNSW SYDNEY	For use of computers in SBMS Office areas in Wallace Wurth

Workstation set-up



Hazards	Risks	Actions
Ergonomics	Musculoskeletal pain	Correct workstation set-up.
Electrical	Electrical shock / fire	Check electrical equipment is 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: ……..

10. School of Biomedical Sciences Honours – Instructions to Authors

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.

10.1. General style requirements

Formatting and Technical Instructions

Text should be Times Roman, 12-point font, with 1.5 line spacing throughout the manuscript. All margins should be 2 cm.

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.

Referencing Style

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.[1]"). If two sources are cited, the superscript numbers should be separated by a comma (for example "…differentiation and exhaustion.[7,8]"), and if more than two sources are cited, the range of the superscript numbers should be indicated using a hyphen (for example: "…demonstrated previously.[4-7]"). 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 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[1] and books[2], and to chapters in books[3], is as follows:

1. Lipp, P., Egger, M. & Niggli, E. Spatial characteristics of sarcoplasmic reticulum Ca^{2+} release events triggered by L-type Ca^{2+} current and Na^{+} 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 digital object identifier (DOI) should be used. See example below.

4. Lipp, P., Egger, M. & Niggli, E. Spatial characteristics of sarcoplasmic reticulum Ca^{2+} release events triggered by L-type Ca^{2+} current and Na^{+} 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

Tables should be integrated at an appropriate position within the text. Tables are numbered consecutively with Arabic numerals, according to the order in which they are first cited in the text. The table 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 and / or row a short or abbreviated heading.

Figures and Legends

Figures should be integrated at an appropriate position within the text. Figures are numbered consecutively according to the order in which they are first cited in the text. 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. Figure legends can appear below the figure and/or on the next consecutive page.

10.2. Literature review

The literature review should be 3,000 words (± 10%).

The literature review will contain:

1. Title page
2. List of abbreviations
3. Introduction / background
4. Hypothesis or research questions and aims
5. Methods
6. References

NOTE: A table of contents or a table of figures should not be included in the literature review.

Title Page

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

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 title page, list of abbreviations, headings, in-text citations, reference list, and figure legends etc.) should be listed.

Month and year of submission

The UNSW crest appears at the top of the title page and must not be altered. The logo of the research institute / centre or industry partner can be included at the bottom of the title page.

A template for the title page is provided on Moodle.

Abbreviations

List all abbreviations used in the manuscript.

Introduction / background

This section need not use 'introduction' or 'background' as a heading. Headings and sub-headings that are descriptive of the concepts or content that is discussed can be used as appropriate. This section provides a discussion and critically analysis of the literature, and should identify the limitations of the literature, areas of controversy and / or gaps in understanding that lead in a logical manner to the aims and hypotheses or research questions of the proposed research project. It should be appropriately referenced with recent and relevant studies or seminal publications and have a clear and logical flow.

Hypotheses / research questions, aims and methods

The hypotheses / research questions, aims and methods sections should together be a maximum of 450 words. Methods are concisely described, with clear links to the proposed experiments and the aims of the research project. Include key details such as the number of participants / sample size / replicates required for the study and how the results will be analysed.

References

The reference list must be arranged numerically in the order in which they appear in the manuscript and in the specified *Nature Medicine* format (see referencing style above).

10.3. Project manuscript

The project manuscript is written up in the style of a submission to a scientific journal (not a 'thesis'). The word count should be 5,000 words (+/- 10%).

Project manuscripts must include the following sections:

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. Reflective summary

Figures and Tables should be integrated at the appropriate places in the text.
Supplementary data may be included in an appendix following the references.
NOTE: A table of contents or a table of figures should not be included in the project manuscript.

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, list of abbreviations, statement of contribution, acknowledgments, headings, in-text citations, reference list, and figure legends etc) should be listed.

Month and year of submission

The UNSW crest appears at the top of the title page and must not be altered. The logo of the research institute / centre or industry partner can be included at the bottom of the title page.

A template for the title page is provided on Moodle.

Abbreviations

List all abbreviations used in the manuscript.

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 be no more than 1000 words. It should give a brief and 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. The introduction text should not simply be a direct copy of the literature review text submitted for assessment (this would constitute self-plagiarism). While the text of the literature review will inform what is included in the introduction, it will need to be revised to reflect the outcomes of the research project and the need for the introduction to be concise.

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; provide descriptions of new or substantially modified methods. Provide details of any ethics approvals required for the research undertaken. Identify the apparatus, drugs, chemicals, and reagents used; give the manufacturer's name in parentheses after each item. Here are some examples for guidance:

- For any equipment used, indicate the manufacturer and where relevant the model or version number. For example:
  "Serum IgG levels were measured on a Bio-Plex instrument (Bio-Rad)."
  "Data collection was performed with the Victor X Light luminometer (PerkinElmer, instrument program v.4.00.5)."
- For any software used, indicate the name of the software, the name of developer and the version number. For example:
  "One-way ANOVA followed by a Tukey multiple comparisons test was performed using GraphPad Prism (v.8.0.0 for Windows, GraphPad Software)."
- For reagents used, indicate the name of the reagent and the name of the supplier. Where necessary, include the catalogue number and/or batch number so that the reagent can be identified unambiguously. For example:
  "Cells were fixed with 0.05% glutaraldehyde (Sigma-Aldrich) for 10 min at room temperature and then permeabilized with 0.1% Triton X-100 (Life Technologies) for 5 min..."
  "HEK293 cell line (CRL-1573) was obtained from American Type Culture Collection (ATCC)."

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

The reference list must be arranged numerically in the order in which they appear in the manuscript and in the specified *Nature Medicine* format (see referencing style above).

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 summarised 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, while still conveying the information effectively. Supplementary data presented as figures or tables still require figure legends and table headings and be numbered with the prefix 'S' to indicate they are supplementary figures and tables.

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.