Faculty of Medicine
School of Medical Sciences

Neuroscience Honours

2017

A multi-disciplinary research-based course in neuroscience

COURSE OUTLINE

CRICOS Provider Code 00098G

WELCOME

The Neuroscience Honours stream is run jointly by the School of Psychology and the School of Medical Sciences (SoMS). Neuroscience Honours facilitates interaction of the students with the broader neuroscience community at UNSW. The Neuroscience Honours stream is open to all students who majored in Neuroscience or who are eligible to enrol in Honours in the School of Psychology or School of Medical Sciences and have a background in disciplines allied to neuroscience (as evidenced, for example, by completion of NEUR courses).

Neuroscience Honours is a multi-disciplinary research-based course which can be taken full-time over one year or part-time over two. In this course, you will work on a research project with one or more neuroscientists affiliated with UNSW and undertake course work that will introduce you to the range of knowledge and techniques that make up modern neuroscience. This multi-faceted course is designed to enable you to develop high level research skills, especially in critical evaluation of data and communication of research results, with a specific focus on neuroscience.

Contents

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 medicalsciences.med.unsw.edu.au)

COURSE STAFF

Honours Coordinator

Dr John Power
Phone: 9385 2910
Email: john.power@unsw.edu.au
Room: 303, Level 3, Wallace Wurth building

Consultations

Dr Power is responsible for all academic and administrative matters regarding the course. Students should feel free to approach him for any questions or problem concerning the course. It is best to arrange an appointment in advance by email.

In Dr Power's absence, urgent enquiries can be directed to any of the Neuroscience Honours Committee listed below. Other information of an administrative nature may also be obtained from the BSB Office, Ground Floor, Biological Sciences building.

Neuroscience Honours Committee Members

Dr Kim Delbaere	k.delbaere@neura.edu.au	NeuRA
Dr Natasha Kumar	natasha.kumar@unsw.edu.au	SoMS – Pharmacology
Dr Gila Moalem-Taylor	gila@unsw.edu.au	SoMS – Physiology
Dr Renee Morris	renee.morris@unsw.edu.au	SoMS - Anatomy
Dr John Power	john.power@unsw.edu.au	SoMS – Physiology
Dr Jacqueline Rushby	j.rushby@unsw.edu.au	Psychology
A/Prof Branka Spehar	b.spehar@unsw.edu.au	Psychology

STREAM INFORMATION

Stream Structure

The Neuroscience Honours is a research-focused 48 UOC course that includes a full-year research project component, and a coursework component. Students enrol in two 6 UOC courses; NEUR4411 Behavioural Neuroscience and NEUR4421 Biomedical Perspectives in Neuroscience. The research project occupies the other 36 UOC, which students take by enrolling in a combination of NEUR444X Neuroscience Research courses that add up to 36 UOC.

Contact hours: There are relatively few formal contact hours. Most time will be spent engaged in research work under the direct supervision of a UNSW neuroscience researcher.
The formal contact hours include

- a presentation of the project proposal to the Neuroscience Honours Committee
- ten two-hour weekly seminars (NEUR4411 Behavioural Neuroscience)
- six half-day workshops (NEUR4421 Biomedical Perspectives in Neuroscience)

Course Times and Locations:

- NEUR4411 Behavioural Neuroscience is offered during semester 1 and will run as weekly 2-hour classes, commencing week 2, and run for 10 weeks (the meeting room and timetable to be advised).
- NEUR4421 Biomedical Perspectives in Neuroscience is offered during semester 2 and will run as weekly workshops, commencing week 1 or 2 (the meeting room and timetable to be advised).

Schedule for the Honours Year

1 - 27 Feb	Students commence their research project. Exemption for a late start can be obtained by writing to the Honours Coordinator.
27 Feb	Official start of the Honours Year and Induction Seminar.
Week 1 or 2 (TBC), S1-2017	Semester 1 coursework (NEUR4411) commences.
Week of 10 Apr	Students present their Project Proposal to a panel.
24 Apr	Students submit Project Proposal (12 noon).
	Project Proposal rejoinder due 2 weeks after receipt of assessment.
Week 1 or 2 (TBC), S2-2017	Semester 2 coursework (NEUR4421) commences.
3 Nov	Students submit thesis (12 noon).
6 Nov	Students submit lay summary (12 noon).

Updated Course Information

This course will rely on Moodle and email for communication and resources. To access the course site, point your browser to: https://moodle.telt.unsw.edu.au/login/index.php

Log on using your z-pass (z<student-number> and your password). After logging on to Moodle, look for the course entitled NEUR Honours. Notes for the coursework component will be posted on Moodle. Updated assessment (thesis, proposal, and lay summary) and administrative information will also be provided there. Discussion forums are available for students to discuss the course with each other. There is also a forum in which students can provide anonymous feedback on how the Neuroscience Honours course could be improved. The best way to contact course staff with questions is by direct email.

The coursework components NEUR4411 and NEUR4421 have their own tab on the Moodle page.

Attendance Requirements

Completion of the Health & Safety Awareness and Lab Safety Awareness courses as well as other specific health and safety courses (please check with your supervisor) are compulsory in order to undertake research at the University.

Students are expected to attend all of the coursework sessions. Students who miss more than 2 hours of coursework classes due to illness or for other reasons must submit a copy of medical certificates or other acceptable documentation to the Honours Coordinator. **Certificates should be lodged no more than 7 days after an absence.** The following details must be attached: Name, Course code, Date of the class, Name of class missed.

The attendance requirements for the research component of this course are to be arranged between the student and their supervisor. The underlying assumption is that 24 UOC in Neuroscience Honours is a full-time course and so the workload is equivalent to that of a full-time job. Holidays are to be negotiated with the supervisor, as there are no fixed holiday periods. Conflicts with extra-curricular activities are to be resolved with reference to the SoMS policy on extracurricular activities for students; see Advice for Students.

A timeline for the project including expected absences of both student and supervisors forms part of the project proposal.

Approach to Learning and Teaching

The philosophy underpinning this course and its Teaching and Learning Strategies is based on “Guidelines on Learning that Inform Teaching at UNSW”. These guidelines may be viewed at: https://teaching.unsw.edu.au/guidelines

Neuroscience Honours engages the student in contextualised learning by allowing each student to conduct their own research project under the supervision of a specialist neuroscience researcher. The student and supervisor devise a project tailored to the student's strengths and designed to provide additional experience in areas that will help the student develop. The inclusiveness of the course is strengthened by allowing students to select their own supervisor from a wide range of research staff across several schools and research centres which make it possible to match supervisors and students whose teaching and learning styles are complementary.

Engaging in the research project enables the student to develop advanced disciplinary knowledge, the use of specialised techniques relevant to their chosen research area, and skills in critical thinking, evaluation and synthesis of information, and scientific communication in oral and written forms.

Neuroscience is conceived of as a core field of knowledge to which many different disciplines contribute. Neuroscience is primarily an experimental discipline and so a proper appreciation of

neuroscience requires an understanding of both what is known, and of the limitations imposed by our study tools. The coursework component of the course exposes student to the diverse range of disciplines, techniques and thought in modern neuroscience. The coursework covering the scope and range of approaches in neuroscience provides the student with a broad base of knowledge from which to appreciate neuroscientific developments, while the research project enables deep learning that brings the student to the forefront of knowledge in a narrow field of modern neuroscience.

A major component of this course is self-directed learning. Demonstrating independence in finding and evaluating relevant literature for background and techniques is one of the criteria on which the research thesis is evaluated. As senior students, it is expected that students will be enthusiastic and self-motivated and ensure that they perform well in each part of the course, attend all required seminars and workshops, completing assessments by the due date, and seek assistance such as mentoring or supervision as required.

Student Learning Outcomes

UNSW learning outcomes:

To complete Honours in the Faculty of Science at UNSW, students are expected to:

- demonstrate coherent and advanced knowledge of the underlying principles and concepts in one or more disciplines, and knowledge of research principles and methods
- demonstrate cognitive skills that review, analyse, consolidate and synthesise knowledge
- identify and formulate solutions to complex problems with intellectual independence
- demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas
- demonstrate an ability to adapt knowledge and skills in diverse contexts
- demonstrate initiative and judgement in scholarship
- demonstrate responsibility and accountability for own learning and practice and in collaboration with others within broad parameters
- demonstrate communication skills to present a clear and coherent exposition of knowledge and ideas to a variety of audiences
- construct a research project that demonstrates technical skills in research and design
- construct a research project that demonstrates critical thinking and judgement in developing new understanding

Neuroscience Honours specific learning outcomes (in addition to those listed above):

By the end of this course, students are expected to have gained:

- an understanding of WHS and laboratory safety standard operating procedures
- the ability to locate appropriate scholarly journal articles and to critically evaluate and synthesise scientific literature that informs their research topic
- knowledge and practical skills in research techniques
- the ability to accurately record experimental data, draw conclusions, and identify limitations
- the ability to critically assess their research data and integrate it into the wider field
- the ability to work as part of a research team
- the ability to effectively communicate scientific research in both written and oral forms, to both a specialist and a lay audience

ASSESSMENT

Assessment Tasks

Project proposal	**10%**
Research thesis	**60%**
Lay Summary for thesis	**5%**
NEUR4411	**12.5%**
NEUR4421	**12.5%**

The **Project Proposal, presentation**, and **rejoinder** are worth 10% of the final mark. The main purpose of the Project Proposal is to provide timely and formative feedback to the student regarding their project, including details of design, conduct and analysis. The structure of the proposal and assessment process are modelled after the National Health and Research Council Project Grant Scheme. This process allows the Committee to raise issues around feasibility and fallback plans, and models the iterative process of how science (grants, papers) is actually conducted.

Project Presentation (3%)

- Students will outline their research proposal to the Neuroscience Honours Committee and other interested supervisors and students. The presentation is to be up to 10 minutes long, and students may use PowerPoint but must include no more than six slides plus title slide. The slides can be 'built up', but replacement of any element on a slide is not permitted. The presentation should convey the aims, hypotheses, experimental design & rationale, outcomes and significance of the proposed research along with a timeline of the honours year.
- Students are expected to have rehearsed the talk with their supervisors; **notes will not be allowed**.
- Professional attire and delivery are expected.
- The presentation is followed by up to 10 minutes of questions and discussion between the candidate, supervisor(s), and the panel regarding the project, especially with regard to its feasibility in the timeframe. Students should expect to answer questions about the experimental design details.
- Students will receive written feedback on their talk from the audience (see page 19).

Project Proposal & Rejoinder (7%)

- The written proposal should be no more than 4000 words. The proposal consists of an approximately 2000 word overview of the background literature followed by a research plan of no more than 2000 words that outlines the project, covering aims, hypotheses, experimental design & rationale, outcomes & significance, and timeline.
- Supervisor(s) are expected to read and provide editorial input on the proposal; however, they must not be the author of the document.
- A detailed description of the formatting for the Project Proposal is on pages 14-15.
- Project Proposal marking guidelines are on pages 20-21.
- Students should submit two stapled hard copies to the BSB Office by **Monday 24 April 2017 (12 noon)**. Students should also submit the Project Proposal via Turnitin on Moodle and send a PDF copy by email to the Honours Coordinator.
- Students will receive written comments from two assessors on their proposal document. The student will then respond in writing to the comments addressing all points (whether or not they have a question mark at the end) and justify their comments. There is a strict 2-page limit (2-cm margins; 12-point Times New Roman) to the **rejoinder document** including any figures and references.

The **Research Thesis** is worth 60% of the final mark.

- The written 8,000 – 10,000 word thesis will be marked by two examiners. Details for its preparation are on pages 16-18 of this course outline.
- Supervisor(s) are expected to read and provide editorial input on multiple drafts of the thesis aside from the discussion. **Supervisors are only allowed to read and comment on a single version of the thesis discussion. Discussion feedback is limited to constructive feedback on the structure of the discussion, its strengths and weaknesses, and the general writing style. Supervisors are permitted to draw the student's attention to any errors or inconsistencies but must NOT under any circumstances, rewrite any words, phrases or sentences. Students with more than 1 supervisor may receive feedback from each supervisor; however, the supervisors must be given the same version of the discussion.**
- Students should submit three spiral-bound copies to the BSB Office by **Friday 3 November 2017 (12 noon)**. Students should also submit the Research Thesis via Turnitin on Moodle and send a PDF copy by email to the Honours Coordinator. The bound copies will not be returned.
- The supervisor(s) will be provided with a copy of the submitted document and asked to confirm the validity of the data and rate the student's independence in generating, conducting, and writing up the research. This feedback will not contribute formally to the mark, but may be used by the examiners in arriving at their decision. The feedback form will be emailed to supervisors prior to the thesis submission date.
- The grading criteria used by the examiners are included at the end of this course outline. Where there is a discrepancy of greater than 10 marks, the two examiners will confer and where possible, reach an agreement in consultation with the Honours Coordinator in the School. However, where agreement is not possible, the thesis will be examined by a third marker. The closest of the three marks will then be averaged to determine the final grade.

The **Lay Summary** of the thesis is worth 5% of the final mark.

- This 2000 character or less summary of the research thesis is targeted at an educated audience without a scientific background. Preparation guidelines will be distributed one month prior to the due date.
- The lay summaries will be marked by all the Neuroscience Honours Committee members who are available. The larger range of markers should provide some consistency in the marking of this short, but important, piece of work.

The **Coursework component (NEUR4411 and NEUR4421)** comprises 25% of the final honours mark (12.5% per course). In NEUR4411 Behavioural Neuroscience, students learn about neuroscience from a psychological perspective. Students will be introduced to a range of techniques and learn how to critically evaluate the primary literature. NEUR4421 will be taught from a biomedical science perspective and consists of half-day workshops covering different cutting-edge neuroscience techniques, statistics and thesis writing. Together, the coursework will provide students with a broad knowledge base and appreciation of neuroscientific developments complementing the deep learning provided by the research project. The coursework is **assessed by the staff that delivered the material**.

Missed In-Course Assessment

If you unavoidably miss an assessment task, you must inform the Honours Coordinator immediately. You must supply adequate documentation (such as a medical certificate) to be considered for any supplementary assessment.

Penalties

Failure to submit assessments on time will result in a daily penalty of 2% 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 Coordinator.

Honours Grades

At the completion of their Honours program, students will be awarded an honours grading as follows**:**

- Honours Class 1: mark of 85 or greater
- Honours Class 2 Division 1: mark from 75 to 84
- Honours Class 2 Division 2: mark from 65 to 74
- Honours Class 3 or Pass: mark below 65

The calculation of class of award will be determined from the student's weighted average mark for all of the courses (research-based and coursework) required for the program.

Honours marks and grades will be scrutinised at a School level as either part of an Honours Committee or School Assessment Committee to ensure consistency across sub-disciplines and cohorts. The Faculty will also review these marks and grades prior to the release of results.

CONTINUAL COURSE IMPROVEMENT

Feedback from students about this course is one of the main ways of ensuring the continual development and improvement of this course. We invite students to provide online anonymous course evaluation to academic staff via Moodle throughout the session to enable immediate feedback.

Changes to the course for this year based on students and supervisor feedback from 2016 include:

- More detailed examiners guidelines have been provided
- The lay summary is now submitted 3 days after the thesis.

Student Responsibilities

(*Adapted from Psychology and SoMS Honours*)
Honours students have the primary responsibility (a) to conduct all aspects of the research project (including literature searches, data collection, and data analyses), (b) for the timely completion of the Honours thesis, and (c) for the form and content of the final product. Students are expected to behave in an ethical, socially responsible, and professional manner throughout honours in accordance with UNSW/Institute policies on research integrity[1] and the Australian Code for the Responsible Conduct of Research[2].

Specific responsibilities are:

- To develop an honours thesis project and plan for completing the project within the required timeframe in conjunction with their supervisor(s). Supervisors may limit the topic to areas that fit within the work of the research group and for which equipment and reasonable resources are available. The project often constitutes one section of a larger study but it is important to ensure the proposed work constitutes a stand-alone project. Once a topic is chosen, the development of the research proposal, hypotheses and appropriate design is the responsibility of the student working in conjunction with their supervisor(s).
- To complete in a timely manner the Health & Safety online awareness training course and all required Work Health & Safety and laboratory safety training and to comply with all requirements.
- To gain ethical approval for your research project in conjunction with your supervisor (if it does not already exist) and to conduct your research in an ethical manner, treating tissue, animals or participants with respect and appreciation.
- To follow experimental procedures as outlined by your supervisor(s), ensuring ethics compliance and consistency with other components of the larger project.
- To treat with confidence any information identifying participants. 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.
- To adopt and implement the standard practices of the research group. This may include methods for data identification and storage, resource bookings and equipment use, etc.
- To keep organised, complete and confidential records of the data collected, particularly in a manner which can be easily accessed at any time by the student or supervisor(s) and be understood at a later date by a research group member not immediately involved in the work. Researchers have a legal responsibility to keep full, accurate and legible records of research methods, research data and primary materials (including laboratory notebooks and electronic data) in a durable, organised and accessible manner. Research data and materials remain the property the University / Institute, unless subject to a third-party agreement.
- To seek the approval of your supervisor prior to consulting with other academic staff or other researchers in the field about the project and to undertake additional work towards the thesis identified as necessary by your supervisor. Posting of unpublished experimental plans or research results on the internet without the permission of the research supervisor is prohibited.
- To take responsibility for the quality and originality of all submitted work.
- To establish with your supervisor the level of support required for successful completion of the thesis and to maintain regular contact with her/him. Meetings with the supervisor are important, requiring the cooperation of both parties. Discuss with your supervisor how she/he prefers to operate, whether from informal discussions, drafts and outlines, question and answer sessions, individually or within the context of lab meetings, etc. Prepare in advance for supervisor meetings by determining the areas in which advice would be useful. Present any required written material or graphs/figures to your supervisor in sufficient time to allow for comments before the meetings. You may find it useful to follow up meetings with an email to your supervisor indicating your understanding of agreed actions, responsibilities and timelines (thus minimising miscommunication).
- To maintain a professional and respectful relationship with your supervisor (e.g. to be punctual for meetings; to be willing to take advice and constructive criticism). Students are encouraged to deal promptly with any interpersonal issues that may arise with their supervisor, and if the relationship with the supervisor breaks down, students should seek advice from the Honours Coordinator or the appropriate Grievance Officer.

[1] *https://research.unsw.edu.au/research-integrity-policies-and-procedures*
[2] *http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/r39.pdf*

Supervisor Responsibilities

(*Adapted from Psychology and SoMS Honours*)

The overriding responsibility of supervisors is to provide continuing support and guidance to students in conducting the research project and producing an Honours thesis to the best of the student's ability. However, the final form and content of the thesis is the responsibility of the student.

Specific responsibilities include:

- To assist students in selecting and defining the scope of a suitable research topic. Research projects should be reasonable in scope (consistent with others completed on time in previous honours years), for which laboratory resources are normally available. Resources may include computer programs, access to tissue, animals or participants, and availability of laboratory space and equipment.
- To guide students in the design, data collection and analysis procedures, and provide advice on resolving any difficulties that arise with implementing the project. Once the design of the study has been specified, the sample identified, and the research hypotheses clearly stated, the supervisor will discuss a proposed analysis with the student.
- To provide students with feedback in a timely manner regarding their written research proposal. When the proposal is presented, it is usual practice for students to take the lead in presentation and in answering questions, and supervisors should ensure that constructive commentary is seriously considered prior to commencement of data collection.
- To assist with the ethics application, if the supervisor does not already have approval.
- To ensure that students have adequate training in the necessary procedures prior to the commencement of the main data collection phase, and that all students have completed the mandatory UNSW Health & Safety online awareness training, site specific Work Health and Safety and laboratory safety training (where applicable).
- To maintain regular contact with students in order to monitor their progress and ensure that any issues are dealt with in a timely and considerate manner. "Regular contact" will vary depending on the stage of the work and should be negotiated with each student. To inform students about any planned absences during the candidature and arrangements for supervision during those absences.
- To advise on matters of thesis content, organisation and writing. Please note that for the thesis discussion, supervisors are only allowed to read and comment on a single draft of the discussion. Supervisors should provide constructive feedback on the structure of the discussion, its strengths and weaknesses, and the general writing style. Supervisors are permitted to draw the student's attention to any errors or inconsistencies, but must NOT under any circumstances rewrite any words, phrases or sentences.
- To advise students of inadequate progress or work below the standard generally required, and to suggest appropriate action.
- To act in accordance with relevant ethical codes with respect to the responsibilities and boundaries of the supervisor-student relationship.
- To read the completed Honours thesis for each student being supervised, once the thesis has been submitted to the School, and provide feedback to the Neuroscience Honours Committee on the quality of the work, and the performance of the student across the year.
- To make clear to students your practice regarding possible publication and authorship of the research project, which should be consistent with relevant research and professional codes, and should take into account the possibility of combination with the work of other students or of the supervisor.

ADMINISTRATIVE INFORMATION

General Information

This course is a cross-Faculty course taught by the School of Medical Sciences and the School of Psychology. Administration is based in the Department of Physiology which is part of the School of Medical Sciences and within the Faculty of Medicine. General inquiries can be made at the BSB Office, located on the Ground Floor of the Biological Sciences building (office hours are 9.00am – 4.30pm).

Professor Peter Gunning is the Head of the School of Medical Sciences and appointments may be made through his Executive Assistant on 9385 2531.

Professor Simon Killcross is the Head of the School of Psychology and appointments may be made through his Administrative Assistant on 9385 3034.

Further Study

Once you complete this Honours course, you may be eligible to undertake further research at a Masters or PhD level. You should consult with your supervisor or the Honours Coordinator by July if you are considering this option, as you may be able to apply for a number of scholarships.

INSTRUCTIONS FOR PREPARING THE PROJECT PROPOSAL

(Adapted from SoMS, the National Health and Medical Research Council, and the British Journal of Pharmacology, the Journal of Anatomy, the Journal of Pathology and the Journal of Physiology)

Proposals must include: 1. Title Page, 2. Overview, 3. List of abbreviations, 4. Background, 5. Aims and Hypotheses, 6. Experimental Design and Rationale, 7. Timeline, 8. References

Title Page
Title: The title should contain no more than 150 characters (including spaces) and clearly indicate the subject matter of the proposed research.
Your Name:
Supervisors Names: Supervisors' name in full and the name and addresses of the department(s) and institution(s) to which the work should be attributed.
Word Count: The word count excluding the overview, references and figure legends should be listed.

Brief Overview
A brief overview of the proposal (< 250 words) should follow the title page. The overview should explain the motivation for the study, the aim of the study, and the proposed experimental approach. It should be understandable without reference to the rest of the paper. References may not be cited.

Abbreviations
List all abbreviations used

Background
The background should give a clear account of the motivation for the study. The background is not simply a list of the manuscripts within the field of interest, but rather a discussion the theoretical context of the proposed research based on synthesis of the literature (i.e. putting the project into a relevant context). This section should describe the significance of proposed research and set the scene for the hypotheses and aims. As a guide, we expect this section to be about 2000 words in length and contain 30-60 references.

Aims and Hypotheses
This section is a succinct description of the research question(s) posed and their significance, along with a numbered list of the specific aims of the project (i.e. what you hope to accomplish). These aims should be concrete measurable objectives. Each aim should be followed by a concise description of how the aim will be achieved. This section should also include a clear statement of the hypothesis (or hypotheses) to be tested.

Experimental Design and Rationale
This section contains a detailed description of the experiment design and techniques to be used to answer the research questions and achieve the stated aims. The methods must be described in sufficient detail to allow the experiments to be interpreted 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. Explain how the data will be quantified, the appropriate controls and the proposed methods of statistical analysis. Indicate why the proposed experimental approach was chosen over alternative methodologies. Where appropriate, describe your selection of the subjects (patients or laboratory animals, including controls), identify the age, sex, strain, number required and other important characteristics of the subjects. Expected and potential outcomes of each experiment should be mentioned and their significance should be related to the aims of the project. The research plan should discuss possible pitfalls and consider contingency plans where appropriate. *Students must clearly distinguish between tasks performed by the students themselves and tasks performed by other members of the research group.*

Timeline
The timeline should include any absences by the student or supervisors during the course of the project, in addition to key time points for experiments, analysis and writing.

References
In the text, references to other work should take the form: (Bolton and Kitamura, 1983) or 'Bolton and Kitamura (1983) showed that…' When a paper written by two authors is cited, both names are given; for three or more authors only the first name is given followed by '*et al.*' 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 alphabetically according to the surname of the first author. When the names of first authors are identical, the alphabetical order of the surnames of subsequent authors takes precedence over the year of publication. The authors' names are followed by the year of publication in brackets. If more than one paper by the same authors in one year is cited, a, b, c, etc. are placed after the year of publication, both in the text and in the list of references. All authors should be quoted in the reference list for papers with up to seven authors; for papers with more than seven authors, the first six should be quoted followed by '*et al.*' The format for references to papers and books, and to chapters in books, is as follows:

Lipp P, Egger M & Niggli E (2002). 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.

Adrian ED (1932). The Mechanism of Nervous Action. Humphrey Milford, London.

Buchan AMJ, Bryant MG, Polak JM, Gregor M, Ghatei MA & Bloom SR (1981). Development of regulatory peptides in the human fetal intestine. In Gut Hormones, 2nd edn, ed. Bloom SR & Polak JM, pp. 119-124. Churchill Livingstone, Edinburgh.

For those articles published on online which have not been assigned full publication details, the DOI (digital object identifier) should be used. See example below:

Lipp P, Egger M & Niggli E (2002). 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.

Students must indicate the 5 most significant primary literature references (no reviews) and write a 2-4 sentences comment for each, explaining its significance to the proposed research.

Tables
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.

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 in 12-point font, with 1.5 line spacing throughout the manuscript. Margins should be 2 cm all round. The manuscript should be no more than 4,000 words excluding the overview, references, tables, figures, and legends.

INSTRUCTIONS FOR PREPARING THE RESEARCH THESIS

(Adapted from SOMS, and the British Journal of Pharmacology, the Journal of Anatomy, the Journal of Pathology and the Journal of Physiology)

Manuscripts must include: 1. Title Page, 2. List of abbreviations, 3. Abstract, 4. Introduction, 5. Methods, 6. Results, 7. Discussion, 8. Acknowledgements, 9. List of references

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.
Word Count: The word count excluding abstract, acknowledgments, references and figure legends should be listed.

Abbreviations:
List all abbreviations used.

Abstract
An abstract must be 250 words or less. It should provide the background for the study, experimental approach, major findings and conclusions. The abstract should be understandable without reference to the rest of the paper. The 250-word limit should allow for ~2 sentences each of introduction, methods, results, and conclusion. References may not be cited.

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. 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. The methods must also include the name of the ethics committee approving the study and a statement confirming that the experiments have been conducted in accordance with the relevant national or world guidelines.

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 data is presented, the mean results with standard errors or confidence intervals, the number of observations, and statistical significance, should be given where 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. 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 Acknowledgments 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. **Supervisors are only permitted to read one version of the discussion**.

Acknowledgements
The student must list the contribution of others to the research project. The student must clearly indicate all data collection or analysis performed by other members of the research group. For Honours, you will collaborate with your supervisor(s) and other members of your research group, thus your supervisor(s) and research group members who provide substantial input (e.g. for animal surgery; previously collected data) should be acknowledged. The student should also acknowledge those who have provided reagents, technical help and scientific advice.

References
In the text, references to other work should take the form: (Bolton and Kitamura, 1983) or 'Bolton and Kitamura (1983) showed that…' When a paper written by two authors is cited, both names are given; for three or more authors only the first name is given followed by '*et al.*' 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 alphabetically according to the surname of the first author. When the names of first authors are identical, the alphabetical order of the surnames of subsequent authors takes precedence over the year of publication. The authors' names are followed by the year of publication in brackets. If more than one paper by the same authors in one year is cited, a, b, c, etc. are placed after the year of publication, both in the text and in the list of references. All authors should be quoted in the reference list for papers with up to seven authors; for papers with more than seven authors, the first six should be quoted followed by '*et al.*' The format for references to papers and books, and to chapters in books, is as follows:

Lipp P, Egger M & Niggli E (2002). 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.

Adrian ED (1932). The Mechanism of Nervous Action. Humphrey Milford, London.

Buchan AMJ, Bryant MG, Polak JM, Gregor M, Ghatei MA & Bloom SR (1981). Development of regulatory peptides in the human fetal intestine. In Gut Hormones, 2nd edn, ed. Bloom SR & Polak JM, pp. 119-124. Churchill Livingstone, Edinburgh.

For those articles published on online which have not been assigned full publication details, the DOI (digital object identifier) should be used. See example below:

Lipp P, Egger M & Niggli E (2002). 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.

Tables
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. Figures must be high resolution and clearly discernible with sufficiently different symbols that they can be interpreted if printed in black and white. All axes must be labelled and include the units of measure. 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 enhance the overall understanding of the research but are not be essential for the understanding of the manuscript.

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 in 12-point font, with 1.5 line-spacing throughout the manuscript. Margins should be 2 cm all round. The manuscript should be **8,000-10,000 words** excluding the abstract, acknowledgements, references, tables, figures, legends and supplementary data.

Feedback for Proposal Presentation in Neuroscience Honours

Student: _____

Comments:

Background

	SA	A	MA	MD	D
Conveyed significance of study					
Set the scene for hypothesis and aims					
Appropriate depth and focus					

Aims/ Hypotheses

	SA	A	MA	MD	D
Clear explanation of the research question/hypothesis					
Clear list of specific aims that address hypothesis					

Research Plan

	SA	A	MA	MD	D
Clear description of experiments with appropriate detail					
Clear link between the aims and the research plan					
Potential outcomes and their significance presented					

Clarity of Talk

	SA	A	MA	MD	D
Delivery clear, articulate and professional					
Confident and enthusiastic					
Well-paced presentation					

Clarity of Slides

	SA	A	MA	MD	D
Clear, clean error free slides					
Informative, appropriately labelled figures and graphics					
Appropriate font size and graphics					

Handling of Questions

	SA	A	MA	MD	D
Answers demonstrate clear understanding of project					
Logical thoughtful answers					

Overall Score / 100 Boxes are designed to assist with feedback; the overall mark is holistic	**95-100 - Uni Medal worthy** **90-94 -Truly Exceptional** **85-89 - Outstanding** **80-84 - Accomplished** **75-79 - Sound** **70-74 - Satisfactory** **< 70 - Poor**
SA – strongly agree, A – agree, MA – mildly agree, MD – mildly disagree, D - disagree	

Grading Guidelines for Neuroscience Honours Proposals

The Neuroscience Honours proposal is a 3-part process; thesis, talk, and rejoinder. The format is meant to model that of the NHMRC and ARC. Assessors should provide feedback on students **writing style** and the **project** itself. *Try to identify strong and weak points, and areas for improvement.* Assessors are also required to **pose two or more questions**. The students will address these questions in their written rejoinder, which we will forward to you to use in arriving at a final mark.

The written proposal should have ~ 2000 words that provide an overview of the background literature, and 1500-2000 words that describe the aims, hypotheses, experimental design & rationale, and a timeline. Please see the 'Instructions for Preparing the Project Proposal' for more detail. Supervisors have been instructed to read and provide editorial input on the proposal, on the condition that the student remains the author of the document.

Proposal Structure (see the 'Instructions for Preparing the Project Proposal' for more detail)

Overview	Concise explanation of the motivation, the aim, and the proposed experimental approach of the study that is understandable without reference to the rest of the paper.
Background	Clear account of the scientific background and the rationale of the experiment.
Aims / Hypotheses	Clearly expressed aims that emerge from the Background. Specific testable hypotheses.
Experimental Design & Rationale	Logical and clear description of the planned experiments and data analysis, including appropriate controls and replication.
Timeline	Key time points for experiments, analysis and writing

Feedback to student on writing style
Assessors should comment on the following aspects of the Proposal:

- clarity of thinking (logical consistency, thoroughness, focus, rationale)
- clarity of expression (clear sequencing and presentation of information)
- grammar and spelling
- referencing in a consistent and appropriate style

Feedback to student on the project
You should approach reviewing this Proposal as though it is a grant proposal that you have been asked to referee. Assessors should comment on the following aspects of the Proposal:

- scope of the project (is it a reasonable body of work achievable in the timeframe?)
- clarity of the aims and hypotheses
- experimental design and contingency plans (will the research plan successfully address the stated hypothesis or research objectives?)
- planned analysis techniques

Consider the feasibility in the timeframe, and fallback plans in the event of disaster. **Remember that the project itself is determined by the supervisor; therefore, the scientific quality and innovativeness of the project should not be included in the assessment.**

Questions to student on the project
In addition to providing their assessment of thesis, assessors are required to **pose two or more questions**. The questions can pertain to aspects of the research plan such (missing details, controls, rationale, alternative methods) or to aspects of the background or aims & hypotheses (clarification of aims, errors of logic, relevant background that was omitted).

Proposal marking criteria:

Marks for this assessment are to be given holistically based on the marking standards given below, rather than fixed to a prescribed rubric. Student marks should be based on the quality of the proposal /rejoinder documents and **NOT** the scientific quality and innovativeness of the project itself, as this reflects the supervisor rather than the student. Half of the proposal was dedicated to the Background; thus, about half of the weight should be on this section. As a guide, we expect about half the students in Neuroscience Honours program to obtain a first class honours (85+).

Mark	Standard
95-100	**Uni Medal worthy**. Outstanding achievement on all aspects of the proposal approaching the level of PhD scholarship in the academic field.
90-94.9	**Truly exceptional**. Very well written, clear and concise throughout. Thorough evaluation of the literature. Exceptional grasp of critical concepts. Clearly outlined aims and hypotheses. Clear description of the experimental approach. Experimental outcomes linked to hypotheses.
85-90	**Outstanding.** Well-written with good critical analysis of the literature. Minor deficiencies in one aspect of the proposal. Links between background and hypothesis may not be entirely clear, or some issues have not been tackled in sufficient depth in Background or Experimental Design and Rationale.
80-84.9	**Accomplished.** Mostly well written with reasonable critical analysis. Some links between background and hypothesis are not clear, or some obvious questions not fully addressed in Background or Experimental Design and Rationale.
75-79.9	**Sound work.** Although generally satisfactory, this may have some logical inconsistencies, inadequate critical analysis, or be hard to understand.
70-74.9	**Satisfactory**. Satisfactory proposal in most areas, but with some obvious weaknesses in one or more areas.
<70	Poor proposal reflecting a limited effort in many areas.

Thesis Grading Guidelines for Neuroscience Honours Examiners

The thesis is not intended to be a journal article, but rather a chance for students to demonstrate their scientific understanding by describing their experiments; this may include detailed methods and reasoning behind their experimental design.

Remember that the project itself is determined by the supervisor; therefore the scientific quality and innovativeness of the project is not assessed. Assessments should be based on the student's ability to: convey the significance of the work; communicate the details of their experiment; present the data; interpret the data and; critically relate their results to the literature.

Please be realistic with your expectations. Consider what the student has accomplished in the short time-frame (< 9 months) and the obstacles they encountered. Do NOT assess the significance of the work. Remember that this is not a manuscript review. Projects fail and experiments do not always yield meaningful results. A lack to positive results should not preclude students from receiving a first class honours.

The basic components of the thesis are provided in the table below. Examiners are also referred to the instructions for preparing the research thesis at the end of this document. Please note Neuroscience Honours is jointly managed by the School of Medical Sciences and the School of Psychology. Neuroscience thesis guidelines differ from SoMS honours, although both programs have similar expected standards for the final document.

Abstract	A succinct account of the research question, methods, findings, and significance.
Introduction	Clear account of the scientific background and the rationale of the experiment. Critical analysis of the literature. The hypotheses/aims linked to the literature.
Methods	Clear and detailed description of experiments and data analysis.
Results	Logical and clear description of the experimental results with reference to Tables and Figures. No conclusions or interpretation of results presented. Sufficient controls and replicates with appropriate data analysis.
Figures & Tables	Graph axes are labelled and units of measurement given in parentheses. Legends explain the Figures and Tables in sufficient detail to stand alone.
Discussion	Clear interpretation of the results with reference to previous scientific studies. Significance of the findings is placed in the broader context of the field. Comprehensive critical analysis of strengths and limitations of the experiments.
References	Extensive reference list including older ground-breaking studies and newer cutting-edge research. Citation style correct and consistent.
Appendix	May include details of unsuccessful experiments, to allow the examiner to assess that the student has conducted a suitable amount of experimental work.

Assessors should grade the thesis out of 100 using the standards below, and provide some comments for the student on the "Feedback to Student" form. The feedback should be consistent with and provide justification for the final mark.

Neuroscience Honours recognises that every research project is unique. Therefore we have chosen not to adopt a strict marking rubric. The final mark is holistic and should reflect the standard below. While we have different guidelines for thesis preparation and marking than SoMS Honours, we have similar expectations for the final thesis. A modified version of the SoMS rubric is given below to provide some guidance on the expected standards. Each component should be weighted in a manner appropriate for the project. Suggested weights are given in parentheses. Neuroscience Honours supervisors provide feedback on the student's performance, but they do not provide a mark for their students. Instead their feedback is given to you to assist you with the assessment.

Please be aware when reading the discussion that supervisors were only allowed to read and comment on a single version of the thesis discussion. Comments were limited to constructive feedback on the structure of the discussion, its strengths and weaknesses, and the general writing style. Supervisors were NOT permitted under any circumstances rewrite any words, phrases or sentences. This rule was established last year in Neuroscience Honours. SoMS Honours has adopted similar guidelines this year.

Mark	Grade	Standard
95-100	1st-Uni Medal	Outstanding achievement approaching the level of PhD scholarship in the academic field.
90-94.9	High 1st	Truly exceptional. Exceptional grasp of concepts and methodology. Very well written. Clear capacity for further research.
85-90	1st class	Outstanding work, which demonstrates an ability to see implications from a synthesis of the literature and form a clear conceptual framework. Strong grasp of methodology. Very well written. Good potential for further research work.
80-84.9	High 2.1	Accomplished work, which demonstrates an ability to synthesise the literature. Good grasp of concepts and methodology, with a few minor flaws. Well written. Sound potential to undertake further research.
75-79.9	Low 2.1	Describes the literature and demonstrates sound research methodology and practices, yet falls somewhat short due to poor organisation, logical inconsistencies, inadequate critical analysis. Some sections hard to understand.
70-74.9	High 2.2	A satisfactory thesis in most areas, but with some obvious weaknesses in one or more areas, especially in relation to major errors in interpretation of results or their significance.
<70	Low 2.2	A poor thesis reflecting a limited effort in many areas.

Criteria	Project Manuscript						
	10-9.0 Outstanding	**8.9-8.5 Excellent**	**8.4-8.0 Very Good**	**7.9-7.5 Good / Average**	**7.4-6.5 Fair**	**6.4-5.0 Poor**	**4.9-0 Very Poor**
Abstract (0.5)	• Concise and informative summary of project rationale, results and relevance.	• Concise and informative summary of project rationale, results and relevance. Minor aspect unclear/missing.	• Nice summary of project rationale, results and/or relevance. Some key aspect potentially missing.	• Nice summary of project rationale, results and/or relevance. Some aspect missing and/or some error(s).	• Fair summary of project, some aspect missing, and/or some error(s). Potentially inconsistent with main text.	• Significant inaccuracies in the summary of project.	• Significant inaccuracies in the summary of project.
Introduction (1.0 – 1.5)	• Concise and clear account of the scientific background and the rationale of the experiment. Very clear links between hypotheses/aims and literature.	• Concise and clear account of the scientific background and the rationale of the experiment. Clear links between hypotheses/ aims and literature.	• Clear account of the scientific background and the rationale of the experiment. Clear links between hypotheses/ aims and literature. Minor errors.	• Clear account of the scientific background and the rationale of the experiment. Minor omissions or errors. Links between hypotheses/ aims and literature.	• A good introduction of the scientific background and the rationale of the experiment. Some factual error or omissions. Some links between hypotheses /aims and literature.	• Some introduction to the scientific background and the rationale of the experiment. More detail needed. Some links between hypotheses/ aims and literature. Factual errors or omissions in text.	• Lacking detail of the rationale of the experiment and scientific background. No links between hypotheses/aims and literature. Factual errors or omissions in text.
Methods (1)	• Clear and detailed description of experiments and data analysis (including statistical analysis).	• Clear description of experiments and data analysis (including statistical analysis).	• Good description of experiments and data analysis (including statistical analysis), with minor errors.	• Description of experiments and data analysis (including statistical analysis) mostly clear but significant detail lacking. Minor errors present in methods.	• Description of experiments and data analysis (including statistical analysis) lacking major details. Minor errors present methods.	• Description of experiments and data analysis (including statistical analysis) lacking major details. Major errors in methods.	• Description of experiments and data analysis (including statistical analysis) absent or unclear.
Results: Description & Content (1.5 – 2.0)	• Logical and clear description of the experimental results with reference to tables and figures. No conclusions or interpretation of results presented. • Sufficient controls and replicates with appropriate data analysis (including statistics) performed correctly. Represents an extensive body of work.	• Clear description of the experimental results with reference to tables and figures. No conclusions or interpretation of results presented. • Sufficient controls and replicates with minor errors in data analysis (including statistics). Represents a large body of work.	• Clear description of the experimental results with reference to tables and figures. No conclusions or interpretation of results presented. • Sufficient controls and replicates with minor miscalculations in data analysis (including statistics) or inaccurate presentation of data. Represents a large body of work.	• Good description of the experimental results with reference to tables and figures in most instances. Generally, no conclusions or interpretation of results presented. • Sufficient controls and replicates with significant minor miscalculations in data analysis (including statistics) or inaccurate presentation of data. Represents an adequate body of work.	• Description of the experimental results lacks required detail and appropriate reference to figures and tables. Some conclusions or interpretation of results presented. • Sufficient controls and replicates. Inappropriate data analysis, including statistics, used in some parts or inaccurate presentation of data. Represents an adequate body of work	• Description of the experimental results lacks required detail. Some conclusions or interpretation of results presented. • Insufficient controls and replicates used. Major errors or omissions in data analysis. Represents an inadequate body of work.	• No description of the experimental results given. Lack of controls and replicates with appropriate data analysis (including statistics) performed. Represents an inadequate body of work.

Criteria (cont.)	Project Manuscript						
	10-9.0 Outstanding	**8.9-8.5 Excellent**	**8.4-8.0 Very Good**	**7.9-7.5 Good / Average**	**7.4-6.5 Fair**	**6.4-5.0 Poor**	**4.9-0 Very Poor**
Results: Presentation (1.0 – 1.5)	• Graph axes labelled and units of measurement given in parentheses. Legends explain the figures in sufficient detail that they can be understood without reference to the text. Tables clearly labelled with clear footnotes if necessary so self-explanatory. • No errors in presentation.	• Graph axes labelled and units of measurement given in parentheses. Legends explain the figures in sufficient detail that they can be understood without reference to the text. Tables clearly labelled with footnotes if necessary so self-explanatory. • A few minor errors in data presentation.	• Graph axes labelled and units of measurement given in parentheses. Not all legends explain the figures in sufficient detail. Most tables clearly labelled with footnotes if necessary so self-explanatory. • Some minor errors in data presentation.	• Most graph axes labelled and units of measurement given in parentheses. Not all legends explain the figures in sufficient detail to be understood without reference to the text. Most tables clearly labelled with footnotes if necessary so self-explanatory. • Some significant errors in data presentation.	• Results are poorly presented, most graph axes labelled and units of measurement given in parentheses. Not all legends explain the figures in sufficient detail that they can be understood without reference to the text. Most tables are self-explanatory, some errors in description or labels. • Some significant errors in data presentation.	• Results are poorly presented. Most graph axes not labelled or missing units of measurement. Most legends do not explain the figures in sufficient detail that they can be understood without reference to the text. Most tables are not self-explanatory and/or poorly labelled. • Major errors in data presentation.	• Results poorly presented or missing. Graph axes not labelled and units of measurement absent. Legends do not explain the figures in sufficient detail that they can be understood without reference to the text. Tables are not self-explanatory and/or poorly labelled. • Major errors in data presentation.
Discussion (2.5 – 3.5)	• Discussion is insightful, clear and logical. Extensive interpretation of the results with reference to previous scientific studies. Significance of findings extensively placed within the broader context of the field. • Comprehensive critical analysis of strengths and limitations of experiments. Future directions identified and clearly justified.	• Discussion is clear and logical. Appropriate interpretation of the results with reference to previous scientific studies. Significance of findings well placed within the broader context of the field. • Significant critical analysis of strengths and limitations of experiments. Future directions identified and justified.	• Discussion is clear. Appropriate interpretation of results, some reference to previous studies, but not always. Significance of findings placed within the broader context of the field. • Critical analysis of strengths and limitations of experiments. Future directions identified and justified.	• Discussion is mostly clear. Appropriate interpretation of the results with a few minor errors. Reference to previous scientific studies in most cases. Significance of some findings placed within the broader context of the field. • Some critical analysis of strengths and limitations of experiments. Future directions identified and mostly justified.	• Discussion is unclear in many areas. Some inappropriate interpretation of the results. Lacking reference to previous scientific studies. Significance of findings not placed within the broader context of the field. • Lacking some critical analysis of strengths and limitations of experiments. Future directions identified.	• Results are restated with little interpretation or reference to previous scientific studies. Major findings not placed within the broader context of the field. • No critical analysis of strengths and limitations of experiments. No future directions identified. • Misunderstanding of some major concepts.	• Results are restated with no interpretation or reference to previous scientific studies. Findings not place within the broader context of the field. • No critical analysis of strengths and limitations of experiments. No future directions identified. • Little understanding of most major concepts.
References (0.5)	• Predominant and comprehensive use of primary articles. Many articles presented from recent or seminal publications. • Citation style correct and consistent throughout. Reference list completely accurate with no errors.	• Predominant use of primary articles. Many articles presented from recent or seminal publications. • Citation style correct and consistent. Reference list complete, but a few minor errors.	• Predominant use of primary articles. Could have used more articles from recent or seminal publications. • Citation style consistent. Reference list incomplete, and some minor errors.	• Some over reliance on reviews or texts. Could have used more articles from recent or seminal publications. • Some references inconsistent between text and list with many minor errors. Citation style mostly consistent.	• Some over reliance on reviews or texts. Many articles not from recent or seminal publications. • Many references inconsistent between text and list with many minor errors. Citation style incorrect/ inconsistent.	• Significant over reliance on reviews or texts. Limited number of recent or seminal articles used. • Many inconsistencies between text and list. Some major errors. Inappropriate citation style used.	• Use of literature limited to a few articles and reviews. Poor attempt to explore literature. • Many references inconsistent between text and list. Many major errors.

Criteria (cont.)	Project Manuscript						
	10-9.0 Outstanding	**8.9-8.5 Excellent**	**8.4-8.0 Very Good**	**7.9-7.5 Good / Average**	**7.4-6.5 Fair**	**6.4-5.0 Poor**	**4.9-0 Very Poor**
Overall Presentation (1)	• No grammatical or spelling errors. Professional expression and style used consistently. All figures accurate, focused and informative.	• No grammatical or spelling errors. Professional expression and style used. All figures accurate, focused and informative.	• No grammatical errors but some spelling errors. Professional expression and style used. All figures accurate, focused and informative.	• Some grammatical and spelling errors. Professional expression and style used. Most figures accurate and informative.	• Some grammatical and spelling errors. Professional expression used. Most figures accurate, but not so relevant.	• Major grammatical and spelling errors. Professional expression used. Numerous errors in figures or largely irrelevant.	• Major grammatical and spelling errors. Language used not professional. Numerous errors in figures or largely irrelevant.

Supervisor Feedback to Neuroscience Honours Examiners

This form will accompany your student's Honours thesis to inform the examiners in their marking. The student will NOT see this form, so we encourage a frank assessment.

Student Name	
Supervisor Name	

Please rate your student's abilities/effort/contribution to the following aspects of their Honours year. Different research areas will have quite different base expectations for these areas.

	Abilities/contributions relative to expectations for honours				
	Contributed little	Needed more than expected assistance	Performed as expected	Self-directed (top 25%)	Highly self-directed (top 10%)
Refining the research question *searching literature, providing new ideas/questions*					
Conducting the research *recruiting subjects, collecting data*					
Analysing & interpreting the data					
Writing up the thesis					

Please confirm the validity of the data in the thesis and specify the student's contribution and the contribution of others to the thesis research
Please comment on your student's responsiveness to feedback, commitment to the project, their participation in the life of the Department/Research Unit (attending seminars regularly, etc.), and the extent to which they took ownership of the project.
Please add any other comments that might be useful such as: problems that affected progress; the quality of the first draft; particular strengths or weaknesses; suitability for further research.