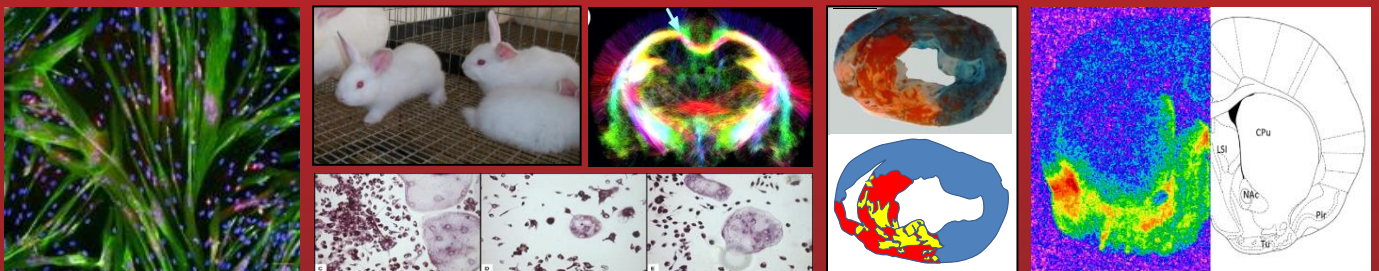


Department of Physiology, Anatomy and Microbiology

Honours in Physiology & Anatomy (HBS4HPA)

2019 Handbook



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IMPORTANT DATES FOR HBS4HPA - 2019

Date	Time	Event
Mon 4 th Feb	10.30-11am	Welcome for all PAM Honours students (Prof Grant Drummond) (RLR-101)
	11am-12pm	Introduction/housekeeping for HBS4HPA (Dr Jarrod Church) (HS2 226)
	2pm	Reid Building Induction (Ms Tammy Esmaili) (RLR-101)
	3pm	Photos (Sui Lay) (RLR-101)
Tues 5 th Feb	10am-11am	Library Services Training includes Endnote/Literature review (Maria Ammazalorso) (Library 1.21)
	11.30am-12.30pm	HS2 Lab Induction (Ms Karen Griggs)(HS2-320)
	2-3pm	Liquid Nitrogen training (Level 1 RLR)
Thurs 7 th Feb	12pm	Welcome BBQ for PAM Honours students/supervisors (Reid Lawn)
Fri 8 th Feb	1pm-2.30pm	“Ten Rules” (Prof David Vaux) (LIMS1-101)
	2.45pm-3.30pm	Genetic Manipulation/Biosafety and Animal Research Induction Training (Carl Ramage & Dr Jordane Malaterre) (TBC)
Tues 19 th Feb	10.30am-12pm	Statistics workshop (Prof Chris Sobey, Prof Grant Drummond, Dr Steve Petrovski, Dr Jarrod Church) (BS2-263/4)
Mondays throughout Semester 1 & 2	12-1pm	PAM Departmental seminars (compulsory for all on-campus students) (LIMS1-101)
Mid-March	TBC	Animal Ethics Induction session (<i>only those students working with animals will need to attend</i>) (TBC)
Fri 22nd March	5pm	Submission of Literature review (via LMS)
early April	TBC	Workshop: How to give a research seminar (Dr Jarrod Church) (venue TBC)
Thurs 18th April	All day	First Research Seminar (venue TBC)
Early – mid June	TBC	Workshops on preparing for the ‘analysis of paper’ exam (Prof Grant Drummond & Dr Jarrod Church) (venue TBC)
Fri 28th June	10am-1pm	Analysis of a paper exam (HS2 226)
Fri 27 th Sept	5pm	Submission of abstract for 2 nd seminar
Wed 2nd Oct	All day	Final Research Seminar (TLC-214)
Fri 25th Oct	5pm	Submission of Thesis (via LMS)

*For events with ‘TBC’ a time/date/location will be confirmed closer to the date via email

INTRODUCTION



“Welcome to Honours in Physiology and Anatomy! As an Honours student in our department, you will embark on a new set of adventures, very different to the undergraduate experience of your first 3 years. You will have the opportunity to fully immerse yourself in a research topic for an entire year and experience first-hand what a career in biomedical research is like. You will get to work alongside our world-leading researchers in areas such as Cardiovascular Disease and Stroke, Cell Biology & Development, Musculoskeletal Injury & Repair and Neurodegeneration & Neuroinflammation (just to name a few), and to become an expert yourself in data analysis, critical thinking and the use of cutting-edge scientific techniques.

As with any research endeavour, you will undoubtedly be confronted with a number of challenges along the way. However, with the support of your supervisor(s), lab colleagues, and the rest of the department, I am sure you will find your Honours year to be highly rewarding and worthwhile. Who knows, some of your discoveries may even get published in the scientific literature, leaving an indelible mark on your field well beyond the completion of your studies.

Good luck and, if you have any questions, please don’t hesitate to contact me or Dr Jarrod Church (Honours coordinator).”



Professor Grant Drummond

Head
Department of Physiology, Anatomy and Microbiology

INTENDED LEARNING OUTCOMES (ILOs)

The objective of Honours in Human Physiology and Anatomy is to help you develop skills that will enable you to be a competent scientific researcher. By spending the year developing, performing, analysing and communicating (both orally and in written form) a major research project, the year aims to build on your undergraduate training and enable you to further develop skills in planning, time management, independence, responsibility, communication and critical thinking which will be highly valued in the workplace (whether in scientific research or elsewhere). The intended learning outcomes of HBS4HPA are to enable you to:

- Demonstrate conceptual, theoretical and practical knowledge of an advanced topic of physiology.
- Demonstrate effective communication skills to explain advanced concepts and research findings to a variety of audiences at a level that is consistent with international discipline standards.
- Critically analyse and interpret scientific information and data to interrogate assumptions, formulate hypotheses, draw unbiased conclusions and defend scientific ideas.
- Employ academic and ethical integrity, and scientific rigor in conducting and evaluating scientific research and developing professional practice.

CONTACTS

Honours Coordinator (primary):



Dr Jarrod Church
Room: HS2-424
Phone: 9479 5869
Email: j.church@latrobe.edu.au

Honours Coordinator (secondary):



Prof Grant Drummond
Room: HS2-433
Phone: 9479 5843
Email: g.drummond@latrobe.edu.au

Laboratory Manager (HS2 320)

Karen Griggs
Phone: 9479 2951
Email: k.griggs@latrobe.edu.au

Laboratory Services Manager (Reid Bld)

Tammy Esmaili
Phone: 9479 2193
Email: t.esmaili@latrobe.edu.au

LMS

Please check the subject LMS site (<https://lms.latrobe.edu.au/course/view.php?id=60967>) for information about upcoming assessments/seminars, useful resources and news about the subject. This is also where you will be submitting your literature review, abstract for your final talk and of course your thesis.

ASSESSMENTS

<u>Assessment</u>	<u>Weighting</u>	<u>Due Date</u>
Literature Review	10%	Fri 22 nd March (5pm)
First Seminar	5%	Thurs 18 th April
Analysis of paper	10%	Fri 28 th June (10am-1pm)
Second Seminar	10%	Wed 2 nd Oct
Thesis	65%	Fri 25 th Oct (5pm)
TOTAL	100%	

DESCRIPTION OF ASSESSMENTS

Literature Review: Submit via LMS by 5pm Friday 22nd March

The literature review should comprise a review of the scientific literature that is relevant to your project. It should be a *selective analysis* of the existing research in your area (rather than a description of everything you have ever read, or a chronological list of everything that has been done in your field), and as such should provide context and a rationale for your project. As the review will form the basis for the introduction of your thesis, you should also ensure that you include a brief section stating the aims and hypothesis for your research project.

The review should be double spaced, 12pt font, and approximately 2500 words in length (excluding tables, figure legends and references). It should be structured as follows:

- Title page: including the project title, student name & ID number, supervisors, and word count)
- Table of contents
- Body of the review: Should include an introduction, the main text, a conclusion, and the aims & hypothesis of your project (*Note: These do not necessarily need to be separate headings, you just need to make sure that these elements are all included*).
- References: (there are no specific guidelines for the formatting of references, however they should be compliant with one of the major journals in your area of research)

You will receive further tips on how to structure and write your literature review during the library workshop in Week 1.

The literature review will assessed by 3 independent examiners using the criteria on Page 15, and feedback will be given to you after collating of marks is complete (approximately 3 weeks after submission). ***Note that the literature review will be uploaded through Turnitin when submitted.***

First seminar: Thurs 18th April (all day), venue TBC

The first seminar will be 10 minutes in duration and should address the project background and aims along with the proposed experimental design i.e. materials and methods. **No results or discussion of results are to be presented at this seminar.** A further 5 minutes will be set aside for questions. The seminar will be presented to Department staff and post-graduate students. A workshop will be run closer to the date (date and time to be confirmed) to give you some guidance as to how to structure and present this seminar. Seminars will be assessed by all attending members of staff according to the criteria on page 13 and feedback will be given after collating of marks is complete (approximately one week after the seminar). **It is compulsory that all Honours students attend every seminar.**

Analysis of paper: Fri 28th June, HS2 226 (10 am - 1 pm)

The examination will consist of a 3 hour open-book session (meaning you can bring in any notes, texts or other references) conducted under exam conditions. You will be supplied with a paper which has had the title and abstract removed, and will be expected to supply an abstract; title and lay summary of the paper as well as answer some basic questions on research design and analysis. Workshops will be run in the weeks leading up to the exam to prepare you for this assessment (time and date to be confirmed), and feedback will be given after correction of the examination (approximately 4 weeks).

Second seminar: Wed 2nd October (all day), TLC-214

The second seminar will be 10 minutes in duration, with a further 5 minutes set aside for questions. The seminar should be a presentation of your year's work and should include project background, aims, experimental design (materials and methods), results and discussion. An abstract (no more than 1 A4 page) needs to be submitted via the LMS by **5pm on Friday 27th September**, to enable enough time to circulate abstracts to the Department prior to your talks. The seminar will be presented to Department staff and post-graduate students, and will be assessed by members of staff in attendance according to the criteria on page 14. Feedback will be given after collating of marks is complete (approximately one week after the seminar). **It is compulsory that all Honours students attend every seminar.**

Thesis: Submit by 5pm Friday 25th October

The thesis is your major assessment task for the year, and should provide a full description of your project. The thesis should be double spaced, 12pt font, and no more than 10,000 words in length (excluding tables, figure legends and references). It should be structured as follows:

- **Title page:** The title page should include the project title, student name & ID number, department/institute, supervisors, submission date, word count and the following statement: "Submitted as partial fulfilment of the Bachelor of Health Sciences (Hons)" (or "Bachelor of Biomed Science (Hons)" if appropriate).
- **Table of contents**
- **Statement of Authorship:** This is a statement (with your signature) where you certify that the contents of the thesis is your own original work (look at some theses from previous years for the wording of this statement).

- **Acknowledgements:** This section should acknowledge your supervisors and anyone else who has contributed to the contents of the thesis (and your project in general).
- **Summary/Abstract:** The summary/abstract of the thesis should be no more than 1.5-2 pages.
- **Introduction:** This would usually be an edited version of your literature review, taking into account any changes in focus in your project or new developments in the field that may have occurred during the year (and perhaps any feedback from your examiners).
- **Materials and Methods:** This section should contain a description of the methods used (including your statistical analysis), and some explanation of why they were chosen. You should also include any statements about ethical approvals in this section. This section should be sufficiently detailed to allow any other researcher to replicate your project.
- **Results:** This should provide a clear description of the results that you have obtained, along with their statistical analyses. It should consist of a narrative description of what you have found, backed up with figures/tables where appropriate. Figure/table legends should contain enough information to make the figure/table understandable without reference to the text.
- **Discussion:** This section is where you should demonstrate your understanding of your results, what those results mean, and how they fit into the context of the wider research area. It is also where you can reflect on your experimental design and propose any changes that you might have made with the benefit of hindsight, as well as future directions that you think the research should take. Remember also that **negative results will not have a negative impact on your mark** – indeed, they may actually give you more to discuss! Note that the Discussion should not merely be a rehash/rewording of your Results section. Key findings should be discussed in more general terms (i.e. there is no need to restate quantitative values) in the context of how they relate to previous literature, and what their relevance is for the field going forward.
- **References:** As with the literature review, there are no specific guidelines for the formatting of references, however they should be compliant with one of the major journals in your area of research.
- **Appendices (if required)**

The thesis will be assessed by the same 3 independent examiners who assessed your literature review, using the criteria on page 17. Comprehensive feedback will be given to you after collating of marks is complete (approximately 3 weeks after submission). ***Note that the thesis will be uploaded through Turnitin when submitted.***

After receiving your feedback you will need to incorporate any major corrections that have been pointed out by your examiners and then submit two hard copies (printed double-sided on A4 paper) of the corrected thesis to Jarrod (HS2-424). These two copies will then be hard-bound by the Department (usually by early January the following year): one hard-bound copy will be retained by the Department and one will be given back to you to keep.

POLICY ON SUPERVISOR INVOLVEMENT

Your supervisors will play an important role in guiding you through your project, and will be your most important source of feedback as you prepare for your assessments during the year. It is, however, important that your assessments in Honours are an assessment of your abilities, rather than those of your supervisors.

Therefore, it is Department policy that supervisors are limited to giving written feedback on **no more than two** drafts of your literature review/thesis, and running through **no more than two** practices of your research seminars. In addition, all supervisors should be reviewing the same version (i.e. you can't get 2 drafts read by one supervisor, then 2 more drafts read by another supervisor). Supervisors should be giving general feedback in the form of comments and **not be using track changes to re-write sections of the literature review/thesis for you.**

As mentioned, this restriction is to ensure that we are assessing your work rather than that of your supervisors, however you are allowed (and in fact encouraged!) to get your fellow students (or family and friends) to read drafts or watch practice seminars as many times as you like.

POLICIES AND PROCEDURES

Academic integrity: The University takes academic integrity very seriously and has a number of policies related to academic integrity and misconduct. You should familiarise yourself with your responsibilities in relation to academic integrity by reading the information available on the university website: <http://www.latrobe.edu.au/students/admin/academic-integrity>

Due dates and late penalties: The University policy on late penalties can be found on the University website (<https://policies.latrobe.edu.au/document/view.php?id=148>): a copy is also available on the HBS4HPA LMS site. For assessment tasks worth **15% or more** with a due date (i.e. the literature review and the final thesis), University policy dictates that penalties for late submission shall be 5% of the total available marks for the task each day, up until 5 working days after the due date (i.e. an assessment that is 4 days late will automatically lose 20% of the total marks available). After 5 working days past the due date, assessment tasks will not be accepted and will receive a "0" grade.

Special consideration: The University policy on special consideration can be found on the University website (<https://policies.latrobe.edu.au/document/view.php?id=205>): a copy is also available on the HBS4HPA LMS site. For assessments worth **less than 15%** (i.e. the two research seminars and the final seminar abstract), a request for an extension must be made to both your supervisor and the Honours coordinators as soon as possible. Extensions will only be considered if they have the support of the supervisor. In these cases there is no need for supporting evidence to be submitted, and special consideration will be granted at the discretion of the coordinators.

For assessment tasks worth **15% or more** (i.e. the literature review, analysis of paper exam and the final thesis), University policy dictates that an application must be made centrally via the online application portal (<http://www.latrobe.edu.au/students/admin/forms/special-consideration>) **no more than 72 hours after the assessment date**. In this case, the University will usually require supporting documentation and the decision of whether to grant special consideration or not will be made centrally rather than by the Hons coordinators.

Other important policies:

The Australian Code for the Responsible Conduct of Research can be found using this link: <https://www.nhmrc.gov.au/guidelines-publications/r39>. A copy is also available on the HBS4HPA LMS site.

Those of you working with animals will need to be familiar with the Australian code for the care and use of animals for scientific purposes 8th edition (2013), which can be found using this link: <https://www.nhmrc.gov.au/guidelines-publications/ea28>. A copy is also available on the HBS4HPA LMS site.

Other University policies on research integrity can be found via this link: <http://www.latrobe.edu.au/researchers/research-office/ethics>.

RESOURCES

Endnote Software program for referencing - as a La Trobe student you are able to download for free the most up to date Endnote program. Please go to <http://www.latrobe.edu.au/students/it/software/endnote/installation> for information regarding how to download and install the Endnote software.

Communication Learning in Practice for Scientists (CLIPS) is a useful resource from UQ covering a number of aspects of communicating for scientists, including preparing talks and scientific writing (<http://www.clips.edu.au/>).

The **GraphPad Data Analysis Resource Center** is a webpage hosted by the company GraphPad, which contains a statistics guide, a curve-fitting guide and also an online calculator for basic statistical calculations (<https://www.graphpad.com/data-analysis-resource-center/>).

The University library (<http://www.latrobe.edu.au/library>).

STUDENT NAME: _____

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)
Visual Aids				
• <i>Layout and organisation of slides</i>				
• <i>Use of diagrams, clarity of visual aids</i>				

Presentation				
• <i>Posture, body language, eye contact, confidence, enthusiasm and audience interaction</i>				
• <i>Audibility/volume of voice, rate, intonation, fluency</i>				
• <i>Ability to adhere to time limit</i>				

Content				
• <i>Introduction including a discussion of current research in the field and where the proposed study fits in</i>				
• <i>Provides a rationale for the proposed study</i>				
• <i>Clearly defined Aims and Hypothesis for the study</i>				
• <i>Description of the proposed study design and some familiarity with the methods to be employed</i>				
• <i>Questions answered clearly and demonstrating a good understanding of the topic</i>				

Comments for student feedback:

Mark: ____/100

STUDENT NAME: _____

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)
Visual Aids				
<ul style="list-style-type: none"> Layout and organisation of slides, use of diagrams, clarity of visual aids (including data graphs) 				

Presentation				
<ul style="list-style-type: none"> Posture, body language, eye contact, confidence, enthusiasm and audience interaction 				
<ul style="list-style-type: none"> Audibility/volume of voice, rate, intonation, fluency 				
<ul style="list-style-type: none"> Ability to adhere to time limit 				

Content				
<ul style="list-style-type: none"> Brief description of the background and rationale for the study, as well as clearly stated Aims and Hypothesis 				
<ul style="list-style-type: none"> Detailed description of the study design and a good understanding of the methods used 				
<ul style="list-style-type: none"> Detailed and clear description and analysis of results 				
<ul style="list-style-type: none"> Logical and well-supported interpretation of the results 				
<ul style="list-style-type: none"> Clearly presented conclusions and future directions 				
<ul style="list-style-type: none"> Questions answered clearly and demonstrating a good understanding of the topic 				

Comments for student feedback:

Mark: ____/100

Student name _____

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)	Fail (<50)	Mark
Formatting	Adheres to formatting requirements outlined in Honours handbook. Layout is logical and clear. Good use of figures or diagrams	Adheres mostly to formatting requirements outlined in Honours handbook Layout is mostly logical and clear	Structural presentation somewhat inconsistent with requirements outlined in Honours handbook Layout is mostly logical and clear	Numerous inconsistencies between the structure of the review and the instructions. Layout is confusing and difficult to follow in parts	Requirements outlined in Honours handbook not followed Layout and clarity so poor as to make review difficult to follow	/10
Language	Language is succinct, fluent, concise and unambiguous Correct grammar and sentence structure and few, if any, spelling mistakes	Generally concise, accurate and unambiguous but problems with some sections of text	Sufficiently clear to allow comprehension, but with frequent errors. Contains sections of wordy and ambiguous language	Significant problems with language, grammar and sentence structure makes the text difficult to follow at times	Incoherent language that defies comprehension	/10
References	Thorough referencing used, with particular focus on primary sources rather than reviews and/or secondary references Excellent ability to paraphrase Citations provided in text when required. Reference list is complete, accurate and formatted appropriately	Adequate referencing used, with particular focus on primary sources rather than reviews and/or secondary references Good ability to paraphrase A few minor errors with citations and/or reference list	Adequate referencing used, but a heavy reliance on reviews and secondary references rather than primary sources A satisfactory ability to paraphrase but with some problems Some errors with in text citations and/or reference list	Insufficient referencing, with very little evidence of having read any primary sources Review contains many direct quotes from references. Frequent errors with in text citations and/or reference list	Large sections of text are unreferenced Large amounts of text directly copied from the references Reference list is missing and/or in text citations are missing	/10

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)	Fail (<50)	Mark
Body of review	Demonstrates extensive reading of the literature (with a focus on primary references) and gives an excellent overview of the research area	Demonstrates adequate reading of the literature and gives a good overview of the research area, however may be lacking in some details	Demonstrates some reading around the research area, however gives an overview that is limited and/or omitting important aspects of the field	Demonstrates a basic familiarity with the research area but reading seemingly limited to review articles. May not adequately introduce the research area	Little or no evidence of any reading of the literature.	
	The literature has been interpreted and synthesized into a logical narrative with well-developed and well-supported arguments, that helps to provide a convincing rationale for the proposed study	A good attempt to interpret and synthesize the literature into a logical narrative. Contains arguments that provide a rationale for the proposed study, however arguments may lack some support or focus	An attempt has been made to interpret and synthesize the literature into a logical narrative, however it lacks focus and may include large amounts of irrelevant information	The literature is not organised into a logical narrative, and instead consists of simply listing previous findings. A rationale for the proposed study is either weak or missing entirely	No attempt made to construct any sort of narrative that provides a rationale for the study	
	Demonstrates an excellent ability to think critically about the literature (i.e. importance & relevance of particular studies, areas of weakness, etc)	Demonstrates a good ability to think critically about the literature, and has attempted to evaluate the strengths and weaknesses of previous studies	Demonstrates limited ability to think critically about the literature. May tend to simply describe previous studies more than evaluate them	Demonstrates very little ability to think critically about the literature, and has simply listed the findings of previous studies without any attempt to evaluate them	No attempt made to evaluate or even summarize previous studies	
	Demonstrates excellent understanding of the literature, where the gaps lie and how the proposed research will add to the field	Good understanding of the field and how the proposed research adds to it	Basic understanding of the field and how the proposed research adds to it	Limited understanding of the field and how the study adds to it	Very little evidence of any understanding the field and how the study adds to it	
			Total			/70

N.B. General/specific comments should be emailed to the coordinator (j.church@latrobe.edu.au) along with the completed rubric.

Student name _____

Assessor _____

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)	Fail (<50)	Mark
Formatting	Adheres to formatting requirements outlined in Honours handbook. Layout is logical and clear	Adheres mostly to formatting requirements outlined in Honours handbook. Layout is mostly logical and clear	Structural presentation somewhat inconsistent with requirements outlined in Honours handbook. Layout is mostly logical and clear	Numerous inconsistencies between the structure of the report and the instructions. Layout is confusing and difficult to follow in parts	Requirements outlined in Honours handbook not followed. Layout and clarity so poor as to make thesis difficult to follow	/5
Language	Language is succinct, fluent, concise and unambiguous. Correct grammar and sentence structure and few, if any, spelling mistakes. Language appropriate for a professional audience	Generally concise, accurate and unambiguous but problems with some sections of text	Sufficiently clear to allow comprehension, but with frequent errors. Contains sections of wordy and ambiguous language	Significant problems with language, grammar and sentence structure makes the text difficult to follow at times	Incoherent language that defies comprehension	/10
Introduction	<p>The introduction is clear and focussed, yet still contains enough information to enable the reader to understand the research area and to present a very strong rationale for the study</p> <p>Excellent understanding of the field and how the proposed research adds to it</p> <p>The aim(s) of the study are clearly articulated and the research hypothesis is stated succinctly and accurately</p>	<p>The introduction may include all of the elements described for H1 category, however may lack focus and include some irrelevant information</p> <p>Good understanding of the field and how the proposed research adds to it</p>	<p>Presents a vague rationale for the study. Background information may not adequately introduce the research area and how the project fits into it</p> <p>Basic understanding of the field and how the proposed research adds to it</p> <p>The aim(s) and hypothesis may be vague and/or lack clarity</p>	<p>A poor attempt at providing a rationale for the study. Contains numerous inaccuracies and/or omissions. Contains large amounts of irrelevant information</p> <p>Limited understanding of the field and how the study adds to it</p>	<p>Does not adequately provide a rationale for the study</p> <p>Very little evidence of any understanding the field and how the study adds to it</p> <p>Aim(s) and hypothesis incomprehensible or missing</p>	/10

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)	Fail (<50)	Mark
Methods	<p>Clear and detailed description of the methods which is sufficient to allow the work to be repeated by others</p> <p>Clear evidence of a thorough understanding of all methods used</p> <p>Reference is made to the body that provided ethical approval (where appropriate)</p>	<p>The methods are as described for H1 category, but with a few minor inaccuracies and/or omissions</p> <p>Some evidence that methods are not fully understood</p>	<p>Presents some detail of the methods used. Some important information may be missing or inaccurate</p> <p>Indications of a significant lack of understanding of the methods used in the study</p>	<p>Contains some details of methods, however, some methods may not have been described</p> <p>Little evidence of any understanding of the methods used in the study</p>	<p>Does not accurately describe the methods used in the study</p>	/15
Results	<p>Results are presented clearly, accurately and in a logical order</p> <p>Described accurately and clearly in narrative form supported by figures and/or tables as appropriate</p> <p>Graphs, tables and figures are all clear, accurate and appropriately labelled with suitable legends</p> <p>Data have been analysed using suitable statistical tests (where appropriate)</p>	<p>The results are largely as described for the H1 category but with a few inaccuracies and/or omissions</p> <p>Narrative may lack some clarity (either too little or far too much descriptive text)</p> <p>Graphs, tables and figures may have some errors</p>	<p>Results are generally clear and accurate, but some important details may be missing or inaccurate</p> <p>Description may be unclear and/or be missing some important results</p> <p>Graphs, tables and figures may be inaccurate or poorly presented</p>	<p>Results are lacking in clarity due to numerous inaccuracies and/or omissions</p> <p>Narrative lacks sufficient detail to adequately describe the results</p> <p>Graphs, tables and figures are not referred to in text, are not included in logical order, or are impossible for the reader to interpret</p>	<p>The results section contains irrelevant or missing information such that it does not adequately convey the findings of the study</p> <p>No narrative accompanies the figures/tables</p> <p>Graphs, tables and figures may be missing, unlabelled, or inaccurate</p>	/25

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)	Fail (<50)	Mark
Discussion	Forms logical and insightful conclusions that are well supported by the experimental data	Forms logical conclusions that are for the most part well supported by the experimental data	Forms conclusions that are somewhat supported by the experimental data	Contains vague conclusions that are not well supported by the data	Illogical or completely unsupported conclusions drawn from the experimental data	
	Comprehensively describes how the findings compare to similar published studies and displays a good understanding of how the findings of this study contribute to the field	Describes how the findings compare to similar published studies and displays a reasonable understanding of how the findings of this study contribute to the field.	Comparison of results with existing literature does not demonstrate good understanding of the results of the current study and/or the findings of other researchers in the field	May contain copious amounts of irrelevant background information or is simply a restatement of results	No attempt to describe the findings of the study or how it compares to other studies in the field	
	Findings that conflict with previously published work and/or established physiological theories and/or the hypotheses of the study are clearly identified and feasible hypotheses put forward to explain the differences	Findings that conflict with previously published work and/or established physiological theories and/or the hypotheses of the study are recognised, and a reasonable attempt has been made to put forward hypotheses to explain the differences	Findings that conflict with previously published work and/or established physiological theories and/or the hypotheses of the study are downplayed, and little attempt has been made to put forward hypotheses to explain the differences	Findings that conflict with previously published work and/or established physiological theories and/or the hypotheses of the study are ignored, and no attempt has been made to put forward hypotheses to explain the differences	No discussion of any conflicting results, or no evidence that conflicting results have been recognised as such	
	Displays an excellent ability to think critically about the strengths and weaknesses of their own work.	Evidence of thinking critically about the strengths and weaknesses of their own work	Some evidence of critical thinking about their own work, but with an unjustified emphasis on experimental weaknesses	Focuses exclusively or excessively on the weaknesses of the study	No evidence of any critical appraisal of the strengths and weaknesses of their own work	
	Future directions have been identified and justified with clarity and insight based on the results of the study	Future directions have been identified and well justified based on the results of the study	Some future directions have been identified and are based on the results of the study	Future directions are mentioned but do not seem to be linked to the results of the present study	No attempt to discuss future directions	

	H1 (80-100)	H2A (70-79)	H2B (60-69)	H3 (50-59)	Fail (<50)	Mark
References	<p>Thorough referencing used throughout thesis, with particular focus on primary sources rather than reviews and/or secondary references</p> <p>Excellent ability to paraphrase</p> <p>Citations provided in text when required and in appropriate format. Reference list is complete, accurate and formatted appropriately</p>	<p>Adequate referencing used throughout thesis, with particular focus on primary sources rather than reviews and/or secondary references</p> <p>Good ability to paraphrase</p> <p>A few minor errors with citations and/or reference list</p>	<p>Adequate referencing used throughout thesis, but a heavy reliance on reviews and secondary references rather than primary sources</p> <p>A satisfactory ability to paraphrase but with some inaccuracies</p> <p>Some errors with in text citations and/or reference list</p>	<p>Insufficient referencing, with very little evidence of having read any primary sources</p> <p>Thesis contains many direct quotes from references.</p> <p>Frequent errors with in text citations and/or reference list</p>	<p>Large sections of text are unreferenced</p> <p>Large amounts of text directly copied from the references</p> <p>Reference list is missing and/or in text citations are missing</p>	/10
				Total		

N.B. General/specific comments should be emailed to the coordinator (j.church@latrobe.edu.au) along with the completed rubric.