

Neurodegeneration and Ageing

PN 4230



School of Psychology and Neuroscience

Semester 1, Academic Year 2018/19

Module Organiser: Dr Gayle H Doherty

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Introduction to the Module

In this module, students will develop a detailed understanding of the molecular neuroscience underpinning neurodegeneration and ageing. Work will focus at the biochemical and molecular level, so that detailed knowledge of signalling pathways and death pathways will be gained.

The format will be varied. In the first portion of the course, classes consist of taught seminars to introduce new topics and compulsory discussion groups. The class will be divided into small groups who will be presented with published papers that the group will then present back to the rest of the group. The presentations are not marked and are there to provide information for the group. Presentations will consist of a ~ ***20-25min talk with powerpoint slides for the topic. Students must also produce a 1-2 page A4 handout.*** Both of these will be made available to the class via MMS. The second part of the course will focus on how the nervous system ages using a mixture of student presentations as above and practical sessions.

In the final week of the course we will have a revision pub quiz to help you revise for your exams (with prizes and wine!).

Primary goals:

- Increase scientific knowledge of the neurodegenerative disease mechanisms
- To understand the processes underlying the response of the CNS to ageing
- To examine strategies used to investigate molecular mechanisms of neurodegeneration and ageing
- To learn the ability to appraise scientific reports, and present findings to peer-group
- To develop skills in self-directed learning

Teaching Staff

Dr Gayle Doherty ghm@st-andrews.ac.uk

Prof Frank Gunn-Moore fig1@st-andrews.ac.uk

Transferable skills

PN4230 will develop your skills in logical thinking and deductive reasoning. You will be given the opportunity, working both independently and as part of a team, to hone your skills in the analysis, interpretation and presentation of data in a manner that informs the readers of the main features of the results and convinces them of the validity of your interpretation. You will utilise both primary and secondary literature to help construct coherent arguments. You will be given the opportunity to reflect upon and learn from feedback, based on your poster and lab report, which will benefit your future work.

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Timetable

	<u>Date</u>	<u>Activity</u>	
Orientation week	13/09/18	Introduction to PN4230 and ILW activities	Dr G Doherty
Week 1	17/09/18	Introduction to Alzheimer's Disease	Prof F Gunn-Moore
	20/09/18	Student presentations	Prof F Gunn-Moore
Week 2	24/09/18	Student presentations **	Prof F Gunn-Moore
	27/09/18	Student presentations- LTA Bute	Prof F Gunn-Moore
Week 3	1/10/18	Student presentations	Prof F Gunn-Moore
	4/10/18	Student presentations	Prof F Gunn-Moore
Week 4	8/10/18	Student presentations	Prof F Gunn-Moore
	11/10/18	Student presentations – LTA Bute	Prof F Gunn-Moore
Week 5	15/10/18	Student presentations	Prof F Gunn-Moore
	18/10/18	Student presentations	Prof F Gunn-Moore
	18/10/18	Poster abstracts due – 12 NOON Student poster session 2-3pm	Prof F Gunn-Moore
Week 6	22/10/18	Independent Learning Week	
Week 7	1/11/18	Brain Ageing Presentations – LTA	Dr G Doherty
	3/11/18	ABSTRACT FEEDBACK DUE BY 12 NOON	
Week 8	6/11/18	Practical class 2-5pm	Dr G Doherty
	7/11/18	Practical class 2-5pm	Dr G Doherty
Week 9	15/11/18	Genage presentations	Dr G Doherty
Week 10	21/11/18	LAB REPORT DUE 12 NOON – MMS	
	22/11/18	Oxidative stress measurements and discussion **	Dr G Doherty
Week 11	19/11/18	Revision pub quiz with wine and prizes	Dr G Doherty
	12/12/18	LAB REPORT FEEDBACK DUE BY 12 NOON	

All classes are held in Bute C28 except where otherwise stated. Check out weeks 2,4 and 7

Class Times

Orientation week – week 5: Mondays 3-4pm and Thursdays 1-2pm

Week 7 onwards: 12-2pm on Thursdays

Week 8 is the practical week. Classes will be on Tuesday and Wednesday afternoon 2-5pm

YOU MUST ATTEND BOTH SESSIONS

** attendance is require at all elements of the module but will be specifically monitored at these sessions

Assessment

There are three components to the assessment:

- 1) Continuous Assessment Poster and abstract: 20% (abstract hand in Thurs 18th Oct, noon; poster session Thurs 18th Oct, 2-3pm)
- 2) Continuous Assessment Practical: 14% (hand in Wed 21st Nov 12 noon)
- 3) Exam: 66% (held in the December diet)

Continuous Assessment Exercise 1

Produce a poster on the following topic in your groups. These will be displayed on Thursday 18th October 2-3pm following class. The group poster contributes 50% of the total mark for this assessment.

How much is dementia caused by our genetic profile?

You should also submit an individual abstract of the poster by 12 noon on 18th October. The individual abstract must not exceed 250 words and contributes 50% to the total mark for this assessment.

Continuous Assessment Exercise 2

You must submit a **lab report** based on the practical in week 8. Full guidance on what this should constitute is given in the practical hand out, a copy of which will be available on MMS.

This assignment is due on Wednesday of week 10 (21st November, 2018 at 12 noon) and should be submitted as an electronic copy on MMS.

Exam

The end-of-term exam consists of a 2 hour paper in which you must answer 2 out of the 4 essay questions. The essay should show attention to depth and detail that will come from attending all aspects of the course and reading the papers that form the core of this module. To prepare for the exam you should remember that all aspects of the module can be assessed.

Regulations

1. All requests for extensions must go through the School of Psychology & Neuroscience teaching office
https://standrewspsychology.eu.qualtrics.com/ife/form/SV_cOvbEFUPnpUZK3b
2. Academic alerts will be issued for late submission that is not excused <http://www.st-andrews.ac.uk/media/teaching-and-learning/policies/AlertsStudentGuide.pdf>
3. Late penalties will be applied at the rate of one grade point per day or part thereof that an assignment is late (Policy A of the Penalties for Late Work [https://www.st-andrews.ac.uk/media/teaching-and-learning/policies/FINAL%20policy%20Penalties%20for%20Jun14AC%20\(updated%20May17\).pdf](https://www.st-andrews.ac.uk/media/teaching-and-learning/policies/FINAL%20policy%20Penalties%20for%20Jun14AC%20(updated%20May17).pdf))
4. Over-length penalties will be applied at the rate of 1 mark for work that is over-length to any extent, then a further 1 mark per additional 5% over (Policy C of the Penalties for work of incorrect length [https://www.st-andrews.ac.uk/media/teaching-and-learning/policies/FINAL%20policy%20Penalties%20for%20Jun14AC%20\(updated%20May17\).pdf](https://www.st-andrews.ac.uk/media/teaching-and-learning/policies/FINAL%20policy%20Penalties%20for%20Jun14AC%20(updated%20May17).pdf))
5. Words will be counted electronically and all aspects including text boxes will be counted unless otherwise stated.
6. All work will be checked in Turnitin

Feedback

Feedback for continuous assessment will take 3 forms:

1. Your work will be marked on the 20 point common reporting scale
2. A copy of your report will be returned to you with specific comments on it relating to the style, content and accuracy of your individual piece of work. You will also be notified of your turnitin score on this version of your report.
3. If appropriate, you will receive a document with more generic feedback highlighting common problems.

University guidelines state that the timing of return of feedback should be explicit at the point of setting the exercise. Therefore you will receive your grades and written feedback for your work no later than 3 weeks after the submission deadline and this is emphasised on the course timetable for your convenience.

Assessment Procedure

Coursework:

Your work will be marked by the person who sets the assignment. These marks will then be moderated by another member of academic staff. This means that they will look at a selection of scripts and determine whether the mark is consistent with the criteria on the twenty point scale.

Exam:

Each question is marked by the questions setter and moderated by another member of academic staff. Any questions for which the mean mark for the cohort is a statistical outlier are independently second marked and then grades are agreed.

Final grade:

All marks are provisional until all of the procedures are checked and a selection of work is checked by the external examiner (a Neuroscience academic from outwith St Andrews). Your final grade for PN4230 will be reported to you on 24th January, 2019.

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Grade Descriptors

1st Class	Very good to excellent Honours standard
19, 20	As 17-18, except there is additional clear evidence that the student has valuable originality in perspective or exceptional depth of understanding, and/or has integrated appropriate material in addition to that presented by the question setter in the taught module.
17, 18	A very good understanding of the major issues, with a clear, well-informed and well-structured contextual framework and argument around the topic. There is an appropriate mix of theory and evidence.
Upper 2nd Class	Good Honours standard.
14, 15, 16	The answer displays a good understanding of the main relevant issues. There are no major conceptual errors on key issues, but there may be minor errors. The essay is generally well written and comprehensible.
Lower 2nd Class	Adequate Honours standard.
11, 12, 13	The answer shows an understanding of the key issues and has a suitable contextual framework, but without great depth. The arguments are weakly articulated.
3rd Class	Minimal Honours standard
9, 10	Most of the key issues are addressed correctly but superficially, and without showing real understanding. Some relevant evidence and/or factual information. Poorly organized and lacking a contextual framework.
Ordinary, Pass	Not Honours standard
7	Many of the key issues are addressed, but either very superficially or with important errors and/or omissions. Little relevant evidence and few facts. Brief, or unnecessarily padded and/or very poorly organized.
Fail	Unacceptable performance: NOT CREDITWORTHY
5	Some key issues are addressed correctly, albeit superficially, but others have serious conceptual errors or are missing. Little relevant evidence and few correct facts.
3	Some relevant information is presented, but the key issues of the topic either are largely wrong or missing. Extremely superficial throughout. Little or no relevant evidence and few correct facts.
1	Contains a small amount of neuroscience or informational content, but either irrelevant, wrong, or trivial.
0	No neuroscience content at all.