

MACQUARIE  
UNIVERSITY



FACULTY OF  
HUMAN SCIENCES

**DEPARTMENT OF PSYCHOLOGY**

**PSY354**

**Clinical & Experimental Neuroscience**

**Unit Outline**

**Semester 1, 2011**

MACQUARIE UNIVERSITY  
FACULTY OF HUMAN SCIENCES  
PSYCHOLOGY DEPARTMENT  
PSY354 Clinical and Experimental Neuroscience  
1<sup>st</sup> SEMESTER  
UNIT OUTLINE  
2011

**Year and Semester: 2011, Semester 1**

**Unit convenor: Dr. Jennifer Cornish & Dr. Blake Johnson**

**[Prerequisites / Corequisites:] PSY 236 or BIOL246 or permission of Dean of Faculty**

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

**ABOUT THIS UNIT**

**Unit description:**

- 3 credit points
- This unit is designed to provide the student with advanced knowledge in the field of neuroscience from both clinical and experimental perspectives. Students will be taught by experts in neuroscience spanning the Department of Psychology, Institute of Human Cognition and Brain Science and the Australian School of Advanced Medicine. Topics will be research-led and cover neuroanatomy, neurophysiology, neuroimaging, neuropsychopharmacology, emotion, language, attention, memory, sensory and motor systems, together with cardiovascular and respiratory neuroscience. Students will also be trained in grant writing skills for future research funding.

**Unit Rationale:**

- This unit provides the student with advanced knowledge in neuroscience and in the neurobiology of brain and related disorders. This unit is a great complement to other units in the program and will greatly develop research skills for future postgraduate studies.

***It is University policy that the University issued email account will be used for official University communication. All students are required to access their University account frequently.***

#### **TEACHING STAFF**

- Dr. Jennifer Cornish ([jjcornish@psy.mq.edu.au](mailto:jjcornish@psy.mq.edu.au), consultation hours Thurs 1:30-3pm or by appointment)
- Dr. Blake Johnson ([blake.johnson@maccs.mq.edu.au](mailto:blake.johnson@maccs.mq.edu.au), consultation by appointment)
- Other Staff will provide contact details and consultation hours at the time of teaching.

#### **CLASSES**

- Number and length of classes are 1 x 2 hour lecture and 1 x 2 hour tutorial (a total of 6 tutorials – check out below for weeks)
- ***Students enrolled in the External Composite attendance mode (Xc1) can access the iLecture recording of the lecture, but must attend the compulsory tutorial/practical class***

#### **Tutorials**

- Tutorials will be run on weeks 2, 4, 5, 9, 10, 12 in building F9A 164 – Except for Tutorial 1 which will be held in C5C Rm 498 (wk 2) and Tutorial 6 which will be held at the MEG facility at 299 Lane Cove Rd (wk 12).

The timetable for classes can be found on the University web site at: <http://www.timetables.mq.edu.au/>

- Students should attend all tutorial classes or they may be disadvantaged in assessments.

***Managing Classes: Changes to all units can be done on-line via eStudent. After week 2, no further changes will be entertained unless supporting documentation is provided and there is space in the tutorial you wish to change into.***

#### **REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS**

- Prescribed text: Neuroscience, exploring the brain. Bear, Connors and Paradiso, 3<sup>rd</sup> Edition, 2007. Copies of this textbook will be placed on reserve in the library.
- Prescribed unit materials: additional material will be available in class, on blackboard or via e-readings (library).

## UNIT WEB PAGE

- The web page for this unit can be found at:  
<https://learn.mq.edu.au/webct/logonDisplay>

## LEARNING OUTCOMES

- The learning outcomes of this unit are to have a greater understanding of the physiology and pharmacology of brain function and to apply this knowledge to the underpinnings of behaviour and mental illness.

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop students' generic skills in a range of areas. One of the aims of this unit is that students develop their skills in the following:

- Communication and information technology skills: using electronic data bases to search for papers in relevant topics
- Written and oral communication skills: taking part in class discussions, and presenting papers
- Self-awareness skills: identifying and setting targets, time management
- Information skills: formulating arguments, judging the relevance and accuracy of information, comparing different points of view
- Problem solving: comparing alternative interpretations of neuroscience data, formulating new explanations.
- Creative thinking: design of research protocol.

## Graduate Capabilities Developed

The graduate capabilities of this unit focus on:

- Problem solving and research capability: discipline specific knowledge and skills
- Problem solving and research capability: drawing connections across fields of knowledge.
- Creativity and innovation.
- Effective communication.
- Ethical practice.
- Commitment to continuous learning.

## TEACHING AND LEARNING STRATEGY

- The unit will be taught weekly through 1 x 2hr lecture. There are also 6 compulsory tutorial classes (2 hrs each) as listed above. The tutorials are run every second week (starting week 2).
- **Lectures:** The lectures are designed to advance the students' knowledge in key areas of neuroscience. The reading associated with each lecture topic complements and extends the lecture material and students should be self-directed in reading and summarising this material, and integrating it with the lecture material.

- **Tutorials:** Tutorials are designed to enhance the students' research skills by visits to brain imaging labs, practise in grant writing and analysis and communication of contemporary research studies.
- Week-by-week list of the topics to be covered can be found at the end of this document.

## RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES

Assessment in this unit is directly related to the learning outcomes in the following ways:

- Student's basic understanding of theories and research in neuroscience is assessed in a mid-term exam which contains both multiple choice and short answer questions
- The ability to interpret empirical data in relation to theoretical issues and past research literature is assessed using a grant writing exercise, journal article presentation and discussions in journal club format.
- Student's basic understanding of theories and research in applied neuroscience is assessed in an end of year exam

The **five** components to the assessment are detailed below

1. Fortnightly on-line quiz (5 questions) covering lectures of the past two weeks for early feedback on learning progress (**0%**).
2. A midterm test (multiple 5-choice format) will be held during the scheduled 2 hr lecture in week 7 (**35%**). This paper will examine the information covered in lectures in weeks 1-5.
3. A final exam (multiple choice format, 5-choice questions) held in the examination period (**35%**). This paper will examine the information covered in weeks 6, 9-12.
4. An individual presentation of a journal article and related research (20 min) (**10%**).
5. A three page (approx 1500 word) assignment in the form of a grant application, as instructed during tutorials 2 and 3, due by 10 am Friday April 29, 2011 (**20%**). It is departmental policy that assignments are set in terms of a specified word limit and specified format:

Word Limit is 3 pages (approx 1500 word)

single-spaced

12-point font

Times New Roman font

Margin of 2.0 cm

The word limit includes in-text referencing but does not include the reference list at the end. Please see your tutorial document for more information on the format of the grant application

Penalty for exceeding word limit: For each 100 words over the page limit a penalty of 5% will be applied (you can have 99 words over before penalty). This means that for this assignment that is worth 20%, a 5% penalty will result in the loss of  $5\% \times 30 = 1$  marks from your total mark for the assignment. A 5 % penalty is also incurred for each day overdue.

Assessments will be submitted to Turnitin. See Assessment guidelines from class to obtain password.

Marked assignments can be collected in week 12, place and time of return to be announced on blackboard. Results for all assignments will be posted on the Web at the beginning of week 12.

- Attendance: Students should attend all tutorials. The University's new "Advice of Absence" Policy is now called "Application for Special Consideration" and only requires documentation after 3 days of absence.  
(<http://www.reg.mq.edu.au/Forms/APScons.pdf>)

*Assignments can ONLY be submitted via the LABELLED locked boxes in the foyer of building C3A or in the single Psychology Essay Box located outside the entrance of C3A after hours.*

*The assignment boxes are cleared at 10 am on Mondays to Fridays and again at 4 pm ONLY ON FRIDAYS. Assignments received after the 4pm clearing on Fridays will be cleared on Monday 10 am and will incur a weekend (counted as two additional days) penalty.*

*All assignments submitted must be accompanied by a completed and signed Psychology Department coversheet which is available from outside Room C3A 301 or downloadable from <http://www.psy.mq.edu.au/pdf/coversheet.pdf>*

*Assignments may not be accepted unless a correct coversheet is completed and signed.*

*A copy of the assignment must be kept as proof that the assignment was completed and submitted.*

*Electronic copies of assignments are not accepted.*

*Assignments submitted by post will not be accepted.*

**AFTER AN ASSIGNMENT IS SUBMITTED:**

*It is the responsibility of the student to check the Psychology Webpage (<http://www.psy.mq.edu.au/assrec/>) after submitting the assignment to ensure that his/her assignment has been received. The webpage will be updated by 5pm on the*

*due date of the assignment. If an assignment is not noted as being received, it is the student's responsibility to immediately contact the staff in the Psychology Office in writing to inform them. The student will then be required to submit a fresh copy of the assignment and the date of receipt will be the date the Psychology Office was informed of the non-receipt in writing. Lateness penalty will be applied until the date the Psychology Office is informed of the non receipt of assignment.*

*Assignments will be returned to students during an allocated session TBA. The remaining assignments will then be available for collection from the Psychology Office. During Semester time, the Psychology Office opening hours are 10AM to 5PM. Tutors of evening tutorials will return ALL assignments during the late classes.*

*Assignments will not be accepted after the return of marked assignments*

*Assignments submitted after the 4 pm clearing on Fridays will be cleared on Monday at 10 am and will incur a weekend (counted as two days) penalty.*

*Penalties will be levied for late submission of assignment and for exceeding the word limit*

*Ordinarily, no extensions of time for submission of written work will be granted since ample time for its preparation will have been given. If an extension is required for medical or other extenuating circumstances, students may request this in writing by completing a Request for Extension on Written Work form, available outside the Psychology Office, with supporting documentary evidence (such as medical certificate, counsellor note, or similar). The form and the supporting documentary evidence must be submitted to the Psychology Office (C3A 334). The staff in the Psychology Office will make all decisions regarding extensions. Neither individual tutors nor the course convenor will grant extensions.*

*All requests for extensions should be made prior to the due date for the assignment. If an extension is granted the authorisation section of the form must be collected and attached to the assignment. Failure to do so will result in a late penalty being applied as the marker will not know that an extension has been granted.*

### **MID-SEMESTER TEST**

*All students must attend the mid-semester test at the same time. There is no separate arrangement available for evening students to sit this test.*

*Students who are unable to sit the mid-semester test at the specified time must advise the Psychology Office via email and must also submit an Application for Special Consideration form (and Professional Authority if reason is medical, clearly stating the reasons for the absence from the exam). The form is available outside the Psychology office or can be downloaded from*

***<http://www.reg.mq.edu.au/Forms/APScons.pdf>. This should be submitted to the Student Enquiry Services within five days from the day of the examination. The unit chair(s) will determine eligibility for a late mid-semester exam and eligible students will be notified about the time and location of the exam. There will be only one alternative time.***

The University Examination period in ***First Half Year 2011 is from June 6<sup>th</sup> to June 24<sup>th</sup>, 2011.***

You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

<http://www.timetables.mq.edu.au/exam>

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at

<http://www.reg.mq.edu.au/Forms/APSCon.pdf>

***If a Supplementary Examination is granted as a result of the Special Consideration process, the examination will be scheduled after the conclusion of the official examination period.***

***Supplementary Examination in the Department of Psychology will be held on the: 7th and 8th of July, for Semester One 2011.***

***Supplementary Exams are only offered to students who have satisfactorily completed all other assessments for the unit and were unable to sit the final exam.***

***Instructions on applying for sitting of a supplementary exam are available from the website, [www.psy.mq.edu.au/speccond](http://www.psy.mq.edu.au/speccond). It is the student's responsibility to follow the steps outlined in this website. When a supplementary exam has been granted an email will be sent to the student. It is the student's responsibility to check the Department of Psychology Special Consideration website for information relating to the date and location of the supplementary exam. Students who are granted to sit for a supplementary exam must make themselves available to sit for the supplementary exam on the specified dates. There will be only one alternative time. It is the student's responsibility to email the Psychology Office, [psy\\_off@mq.edu.au](mailto:psy_off@mq.edu.au) to confirm attendance to the supplementary exams.***

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are

available until the end of the teaching semester, that is the final day of the official examination period.

## **ACADEMIC HONESTY**

Academic honesty is an integral part of the core values and principles contained in the Macquarie University Ethics Statement. The Policy covering Academic Honesty is available on the web at:

[http://www.mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://www.mq.edu.au/policy/docs/academic_honesty/policy.html)

Plagiarism is an example of dishonest academic behaviour and is defined by the Policy on Academic honesty as: “Using the work or ideas of another person and presenting this as your own without clear acknowledgement of the source of the work or ideas”.

Plagiarism is a serious breach of the University's rules and carries significant penalties. The Academic honesty Procedure is available at

[http://www.mq.edu.au/policy/docs/academic\\_honesty/procedure.html](http://www.mq.edu.au/policy/docs/academic_honesty/procedure.html)

This procedure notes the following responsibilities for students:

- Act in accordance with the principles of the Academic Honesty Policy.
- Become familiar with what academic dishonesty is, what are appropriate referencing techniques and the consequences of poor practice.
- Seek assistance from the unit convenor (or their nominee) to remedy any deficits or if you are unsure of discipline specific practice.
- Submit only work of which you are the author or that properly acknowledges others.
- Do not lend your original work to any other person for any reason.
- Keep drafts of your own authored work and notes showing the authorship or source of ideas that are not your own.

The penalties which can be applied for academic dishonesty are outlined in the Academic Dishonesty – Schedule of Penalties which can be found at:

[http://www.mq.edu.au/policy/docs/academic\\_honesty/schedule\\_penalties.html](http://www.mq.edu.au/policy/docs/academic_honesty/schedule_penalties.html)

The penalties range from applying a fail grade for the assessment task or requiring the student to re-submit the assessment task for a mark no greater than 50 to applying a fail grade to the unit of study and referral to the University Discipline committee.

You must read the University's Policy and Procedure on Academic Honesty.

## **UNIVERSITY POLICY ON GRADING**

Academic Senate has a set of guidelines for the achievement of grades across the range from fail to high distinction. Your final result will include one of these grades plus a standardised numerical grade (SNG).

On occasion your raw mark for a unit (i.e., the total of your marks for each assessment item) may not be the same as the SNG which you receive.

For more information please refer to the Macquarie University Handbook.

### **STUDENT SUPPORT SERVICES**

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at <http://www.student.mq.edu.au>.

On matters pertaining to the regulations, the Registrar's Office should be consulted or, within the Department of Psychology, Dr Julia Irwin, Director of Undergraduate Studies. Students with disabilities who have problems within the Department should consult Ms Radha Pathy, the Disability Liaison Officer. If your difficulties cannot be resolved by these members of staff you should consult the Head of Department.

If you have a major difficulty associated with writing skills, you could enrol in a short course on writing skills. For details go to:  
[http://www.ling.mq.edu.au/support/writing\\_skills/index.htm](http://www.ling.mq.edu.au/support/writing_skills/index.htm)

### **APPEALS AGAINST GRADES**

Please refer to the Macquarie University Handbook.

**PSY354 Clinical and Experimental Neuroscience  
Lecture and Tutorial Schedule**

<b>Date</b>	<b>Lecturer</b>	<b>Subject &amp; Text</b>
<b>Week 1</b> Feb 22 <sup>nd</sup>	Cornish	<b>Introduction to Neuroscience</b> Ch 1 & 2
<b>Week 2</b> March 1 <sup>st</sup>	Johnson	<b>Neuronal Signalling &amp; Brain Rhythms</b> Ch 3 & 4
	<b>Tutorial 1</b>	<i>Neuroimaging Lab 1: TMS (C5C rm 498)</i>
<b>Week 3</b> March 8 <sup>th</sup>	Johnson	<b>Advanced Neuroanatomy</b> Ch 7
<b>Week 4</b> March 15 <sup>th</sup>	Williams	<b>Sensory Systems</b> Ch 8, 9, 10 & 11
	<b>Tutorial 2</b>	<i>Grant Writing 1 (F9A 164)</i>
<b>Week 5</b> March 22 <sup>nd</sup>	Williams	<b>Motor Systems</b> Ch 12, 13 & 14
	<b>Tutorial 3</b>	<i>Grant Writing 2 (F9A 164)</i>
<b>Week 6</b> March 29 <sup>th</sup>	Williams	<b>Emotion</b> Ch 18
<b>Week 7</b> April 5 <sup>th</sup>	Staff	<b>Midterm Test</b>
		<i>Mid Semester Break</i>
<b>Week 8</b> April 26 <sup>th</sup>	No Lecture	<b>Public Holiday</b>
April 29 <sup>th</sup>		Grant Proposals Due at Psychology Office Friday 10 am
<b>Week 9</b> May 3 <sup>rd</sup>	Cornish & Barron	<b>Epigenetics in Neuroscience</b>
	<b>Tutorial 4</b>	<i>Journal Club 1 (F9A 164)</i>
<b>Week 10</b> May 10 <sup>th</sup>	Savage	<b>Memory</b> Ch 24
	<b>Tutorial 5</b>	<i>Journal Club 2 (F9A 164)</i>
<b>Week 11</b> May 17 <sup>th</sup>	Savage	<b>Attention</b> Ch 21
<b>Week 12</b> May 24 <sup>th</sup>	Savage	<b>Language</b> Ch 20
	<b>Tutorial 6</b>	<i>Neuroimaging Lab 2: MEG (299 Lane Cove Road, ph. 9850 1581)</i>
<b>Week 13</b> May 31 <sup>st</sup>	Cornish	<b>In Class Cinema &amp; Course Evaluation</b>

