School of Psychological Sciences

PSYC2400: Biological Psychology

Callaghan and Ourimbah

Semester 2 - 2023

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

COURSE OUTLINE

OVERVIEW

Course Description

Biological psychology is the study of the biological bases of behaviour. PSYC2400 covers core introductory topics in biological psychology which examine the way in which the nervous system integrates activity at many levels, from the micro level of molecular changes in nerve cells to a macro level of whole systems. PSYC2400 also examines biological bases of behaviour in terms of human anatomy, physiology, and evolution and includes selected topics in neuroscience and their relevance to psychology. The laboratory program extends and develops the lecture material and provides additional practical topics that introduce students to basic research methods and techniques in Biological Psychology.

Forms part of an Australian Psychology Accreditation Council's accredited undergraduate sequence in psychology.

Related courses:
PSYC2300, PSYC2500, PSYC3301, PSYC3500

Assumed Knowledge

PSYC1010 and PSYC1020. A 1000 level biology course is recommended.

Contact Hours

Laboratory
Face to Face on Campus
2 hour(s) per Week for 7 Weeks starting Week 3

Lecture
Face to Face on Campus
2 hour(s) per Week for 12 Weeks starting Week 1

Unit Weighting

10

Workload

Students are required to spend on average 120-140 hours of effort (contact and non-contact) including assessments per 10-unit course.

CONTACTS

Course Coordinator

Callaghan and Ourimbah
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Teaching Staff

Other teaching staff will be advised on the course Canvas site.

School Office

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SYLLABUS

Course Content

- Mechanisms of individual neurons
- Ways in which neurons integrate their activity
- Anatomy of neurons and the nervous system
- Mechanisms underlying complex behaviours such as sensory and motor behaviour
- Behavioural consequences of common nervous system disorders

Course Learning Outcomes

On successful completion of this course, students will be able to:

1. Recognise the biological bases of behaviour through knowledge of human neuroanatomy, neurophysiology, genes, hormones, and evolution.

2. Describe the ways in which behaviour is dependent on the integration of neural activity at the molecular, cellular and network levels.

3. Integrate fundamental aspects of neurophysiology to the production of simple and complex behaviour at a systems level.

4. Record human physiological activity and relate that to psychological activity.

5. Write a short scientific report that reflects careful, accurate description of procedures and techniques, and demonstrates understanding of the links between data and theory in Biological Psychology.

SCHEDULE

Week	Week Begins	Lecture	Laboratory/Workshop	Assessment Due
1	17 Jul	Intro to Biological Psychology 1	Lab 1 (online): genetics and evolution of behaviour	
2	24 Jul	Intro to Biological Psychology 2	Lab 2 (online): Brain anatomy and histology	
3	31 Jul	Brain anatomy and development	Lab 3 (face-to-face): Introduction to BIOPAC, skin conductance and Heart Rate Group A	Lab Book for Lab 1 and quiz
4	7 Aug	Neurons and neural interactions	Lab 3 (face-to-face): Introduction to BIOPAC, skin conductance and Heart Rate Group B	Lab Book for Lab 2 and quiz
5	14 Aug	No lecture Mid-semester exam week	Lab 4 (face-to-face): EEG Group A	Mid-semester exam
6	21 Aug	Sensory physiology: Hearing etc.	Lab 4 (face-to-face): EEG Group B	Lab Book for Lab 3
7	28 Aug	Sensory physiology: Vision	Lab 5 (face-to-face): Experiment data collection Group A	Lab Book for Lab 4
8	4 Sep	Controlling movement	Lab 5 (face-to-face): Experiment data collection Group B	
9	11 Sep	Motivation: Homeostatic survival	Lab 6 (face-to-face): Experiment data analysis and discussion. Everyone (Group A and B)	
10	18 Sep	Motivation: Reproduction	No Lab	
Mid Term Break				
Mid Term Break				
11	9 Oct	Emotional behaviour	No Lab	Lab Report
12	16 Oct	Learning, Memory and Cognition	No Lab	
13	23 Oct	No Lecture - Revision Q&A via Zoom	No Lab	
Examination Period				
Examination Period				

ASSESSMENTS

This course has 4 assessments. Each assessment is described in more detail in the sections below.

	Assessment Name	Due Date	Involvement	Weighting	Learning Outcomes
1	Mid-Semester Exam	Week 5 at normal lecture time	Individual	20%	1, 2
2	Written Lab Report	Friday Oct 13 at 11:59 PM	Individual	25%	3, 4, 5
3	Final Formal Exam	Formal Exam Period	Individual	40%	1, 2, 3
4	Lab Portfolio/Book	Varies - see Schedule	Individual	15%	4

Late Submissions The mark for an assessment item submitted after the designated time on the due date, without an approved extension of time, will be reduced by 10% of the possible maximum mark for that assessment item for each day or part day that the assessment item is late. Note: this applies equally to week and weekend days.

Assessment 1 - Mid-Semester Exam

Assessment Type In Term Test

Purpose The purpose and benefit of the Mid-term exam is to provide the students with feedback on learning outcome during the first 4 weeks. This exam covers acquired knowledge about Introduction to Biological Psychology, Brain Development, Brain structure and function and

	Brain Imaging methods. These topics will be excluded from the final exam.
Description	The mid-semester exam is comprised of diagram labelling and multiple choice and short-answer format questions and assesses the content covered during the first 4 weeks of lectures and laboratories.
Weighting	20%
Length	70 minutes
Due Date	Week 5 at normal lecture time
Submission Method	Online
Return Method	Online
Feedback Provided	Online

Assessment 2 - Written Lab Report

Assessment Type	Report
Purpose	The lab reports meet the course objectives of knowledge acquisition and demonstrated assimilation of data, upon reflection and analysis, to produce articulate and concise documents which convey evidence-based understanding of the concepts and topics, as well as the correct techniques and scientific language use in conveying this information in a written format.
Description	The laboratory report is a 1200-word research paper that reports the experiment and analyses of data collected by all students during the week 7 and 8 laboratory.
Weighting	25%
Length	1200 words. Word limits include headings, sub-heading, in-text citations, quotes and referencing but does not include the list of references, appendices, and footnotes. The word limit will allow a tolerance of 10% and any work after the maximum word limit will not be included within the allocation of marks. In other words, the marker will STOP reading at 1320 words.
Due Date	Friday Oct 13 at 11:59 PM
Submission Method	Online
Return Method	Online
Feedback Provided	Online

Assessment 3 - Final Formal Exam

Assessment Type	Formal Examination
Weighting	40%
Length	120 minutes
Submission Method	Formal Exam
Return Method	Not Returned
Feedback Provided	No Feedback

Assessment 4 - Lab Portfolio/Book

Assessment Type	Portfolio
Purpose	The lab book ensures that you get regular feedback about your understanding of the conceptual material covered in lab classes and are acquiring the skills necessary to record and analyse Psychophysiological data.
Description	The lab bookmarks are awarded for correctly completing all of the required entries in all of the lab material from the first 4 labs and answering quiz questions for labs 1 and 2. Lab book 1 and 2 and associated quizzes are worth 5 marks each, and lab books 3 and 4 are worth 2.5 marks each.
Weighting	15%
Length	Varies
Due Date	Varies - see Schedule
Submission Method	Online
Return Method	Online
Feedback Provided	Online

ADDITIONAL INFORMATION

Grading Scheme

This course is graded as follows:

Range of Marks	Grade	Description
85-100	High Distinction (HD)	Outstanding standard indicating comprehensive knowledge and understanding of the relevant materials; demonstration of an outstanding level of academic achievement; mastery of skills*; and achievement of all assessment objectives.
75-84	Distinction (D)	Excellent standard indicating a very high level of knowledge and understanding of the relevant materials; demonstration of a very high level of academic ability; sound development of skills*; and achievement of all assessment objectives.
65-74	Credit (C)	Good standard indicating a high level of knowledge and understanding of the relevant materials; demonstration of a high level of academic achievement; reasonable development of skills*; and achievement of all learning outcomes.
50-64	Pass (P)	Satisfactory standard indicating an adequate knowledge and understanding of the relevant materials; demonstration of an adequate level of academic achievement; satisfactory development of skills*; and achievement of all learning outcomes.
0-49	Fail (FF)	Failure to satisfactorily achieve learning outcomes. If all compulsory course components are not completed the mark will be zero. A fail grade may also be awarded following disciplinary action.

*Skills are those identified for the purposes of assessment task(s).

Communication Methods

Communication methods used in this course include:

- Canvas Course Site: Students will receive communications via the posting of content or announcements on the Canvas course site.
- Email: Students will receive communications via their student email account.
- Face to Face: Communication will be provided via face-to-face meetings or supervision.

Course Evaluation

Each year feedback is sought from students and other stakeholders about the courses offered in the University for the purposes of identifying areas of excellence and potential improvement.

Oral Interviews (Vivas)

As part of the evaluation process of any assessment item in this course an oral examination (viva) may be conducted. The purpose of the oral examination is to verify the authorship of the material submitted in response to the assessment task. The oral examination will be conducted in accordance with the principles set out in the Oral Examination (viva) Procedure. In cases where the oral examination reveals the assessment item may not be the student's own work the case will be dealt with under the Student Conduct Rule.

Academic Misconduct

All students are required to meet the academic integrity standards of the University. These standards reinforce the importance of integrity and honesty in an academic environment. Academic Integrity policies apply to all students at the University in all modes of study and in all locations. For the Student Academic Integrity Policy, refer to https://policies.newcastle.edu.au/document/view-current.php?id=35.

Adverse Circumstances

The University acknowledges the right of students to seek consideration for the impact of allowable adverse circumstances that may affect their performance in assessment item(s). Applications for special consideration due to adverse circumstances will be made using the online Adverse Circumstances system where:

1. the assessment item is a major assessment item; or
2. the assessment item is a minor assessment item, and the Course Co-ordinator has specified in the Course Outline that students may apply the online Adverse Circumstances system.

3. you are requesting a change of placement; or
4. the course has a compulsory attendance requirement.
   Before applying you must refer to the Adverse Circumstance Affecting Assessment Items Procedure available at:
   https://policies.newcastle.edu.au/document/view-current.php?id=236

Reasonable Adjustment Plan (RAP)

If you are registered with Accessibility and have been provided with a Reasonable Adjustment Plan (RAP), please ensure that you provide your Course Coordinator with a copy as soon you can or let your Course Coordinator know that you are still waiting for your RAP.

Important Policy Information

The Help button in the Canvas Navigation menu contains helpful information for using the Learning Management System. Students should familiarise themselves with the policies and procedures at https://www.newcastle.edu.au/current-students/no-room-for/policies-and-procedures that support a safe and respectful environment at the University.

This course outline was approved by the Head of School. No alteration of this course outline is permitted without Head of School approval. If a change is approved, students will be notified, and an amended course outline will be provided in the same manner as the original.