



# Course Outline

PSYC3241

Psychobiology of Memory

School of Psychology

Faculty of Science

T1, 2023

Please note that all students and staff must follow relevant University policies related to COVID at all times.

Some links that should be of help in navigating these issues are listed below (note that these links are likely to be regularly updated as policies/situations change):

**<https://www.covid-19.unsw.edu.au/>**

**<https://www.covid-19.unsw.edu.au/information-students>**

**[https://www.student.unsw.edu.au/student-support-  
unsw?mc\\_cid=6abfed26c1&mc\\_eid=c9dc7010df&mc\\_cid=bb17b6a5c0&mc\\_eid=c9dc7010df](https://www.student.unsw.edu.au/student-support-<br/>unsw?mc_cid=6abfed26c1&mc_eid=c9dc7010df&mc_cid=bb17b6a5c0&mc_eid=c9dc7010df)**

## 1. Staff

Position	Name	Email	Consultation times and locations	Contact Details
Course Convenor	Prof. Rick Richardson	<a href="mailto:r.richardson@unsw.edu.au">r.richardson@unsw.edu.au</a>	By appointment, Mathews 511	9385 1048
Lecturer	Prof. Rick Richardson	<a href="mailto:r.richardson@unsw.edu.au">r.richardson@unsw.edu.au</a>	By appointment, Mathews 511	9385 1048
Lecturer	Prof. Bronwyn Graham	<a href="mailto:bgraham@psy.unsw.edu.au">bgraham@psy.unsw.edu.au</a>	By appointment 1302 Mathews	9385 9703
Lecturer	Dr. Caitlin Cowan	<a href="mailto:c.cowan@unsw.edu.au">c.cowan@unsw.edu.au</a>	By appointment	Via email
Tutors	Jia Teo Angelique Roth Elizabeth Virakorn Madison Brooke Aqsa Shahid	<a href="mailto:jiani.teo@student.unsw.edu.au">jiani.teo@student.unsw.edu.au</a> <a href="mailto:a.roth@student.unsw.edu.au">a.roth@student.unsw.edu.au</a> <a href="mailto:e.virakorn@unsw.edu.au">e.virakorn@unsw.edu.au</a> <a href="mailto:madison.brooke@unsw.edu.au">madison.brooke@unsw.edu.au</a> <a href="mailto:aqsa.shahid@unsw.edu.au">aqsa.shahid@unsw.edu.au</a>	By appointment	Via email

## 2. Course information

<b>Units of credit:</b>	6
<b>Pre-requisite(s):</b>	PSYC2001 and PSYC2081
<b>Teaching times and locations:</b>	<a href="#">PSYC3241 Timetable</a>

### 2.1 Course summary

This course examines research and theory on memory as they underpin adaptive behaviour. The focus is primarily on animal research but the application of this work to the understanding of memory in humans will be made explicit. For example, the implications of this work for our understanding of memory disorders in humans, and the origin and treatment of clinical disorders will be discussed. The course is divided into the following broad topics: basic concepts of memory; memory modulation and consolidation; fear and spatial memory; memory across development; extinction of learned fear; forgetting; and translating research from animals to humans.

The laboratory component of the course provides some “hands on” experience in observing various aspects of rodent behaviour that are frequently used in studies on the psychobiology of memory. **Note that the “hands-on” part of the tutorial will involve handling and experimentation on animal subjects (rats);** this work will be group-work (e.g., groups of students will be doing any particular task, and only some will need to actually touch the rats). **Please contact your tutor as soon as possible if you would prefer to not take part in these activities (alternatives will be arranged for those particular tutorials).**

Further, the laboratory component of the course will provide an opportunity for small group discussion/debate on various issues relevant to the material described in the lecture component of the

course (*Note that this will not involve a revision of the lecture material, but rather consideration of related material. If you are having difficulty understanding material presented in lectures, please contact the lecturer for assistance, or raise the issue in the Discussion Forum on the course Moodle page*).

## 2.2 Course aims

The overall aim of this course is for students to develop and gain further understanding of the psychobiology of memory. Behavioural experiments demonstrating the basic concepts associated with memory, and forgetting, will be described as will experiments that are aimed at determining the neural bases of memory and forgetting.

## 2.3 Course learning outcomes (CLO)

At the successful completion of this course the student should be able to:

1. Demonstrate an advanced level of knowledge and understanding of the theoretical perspectives, and empirical research relating to the biological basis of behaviour, memory, and forgetting.
2. Understand and apply research methods used in psychobiology.
3. Demonstrate practical skills in laboratory-based behavioural research with rodents.
4. Demonstrate effective verbal and written scientific communication skills.
5. Apply psychological principles to broader issues involving memory, including their role in understanding human mental disorders.

## 2.4 Relationship between course and program learning outcomes and assessments

CLO	Program Learning Outcomes						Assessment
	1. Knowledge	2. Research Methods	3. Critical Thinking Skills	4. Values and Ethics	5. Communication, Interpersonal and Teamwork	6. Application	
1.	Lectures, tutorials, lab practicals, online activities, formative quiz, discussion forum	Lectures, tutorials, lab practicals, online activities, formative quiz, discussion forum	Lectures, tutorials, lab practicals, online activities				Formative quiz, Mid-session exam, Proposal, Final exam
2.	Lectures, tutorials, lab practicals, online activities, formative quiz	Lectures, tutorials, lab practicals, online activities, formative quiz	Lectures, tutorials, lab practicals, online activities	Lectures, tutorials, lab practicals, online activities, formative quiz		Lectures, tutorials, lab practicals, online activities, formative quiz	Formative quiz, Mid-session exam, Proposal, Final exam
3.		Lectures, tutorials, lab practicals, online activities		Lectures, tutorials, lab practicals, online activities		Lectures, tutorials, lab practicals, online activities	Mid-session exam, Proposal, Final exam
4.			Lectures, tutorials, lab practicals, online activities		Tutorials, lab practicals, discussion forum		Proposal
5.	Lectures, tutorials, lab practicals, online activities, discussion forum			Lectures, tutorials, lab practicals, online activities, discussion forum		Lectures, tutorials, lab practicals, online activities, discussion forum	Mid-session exam, Proposal, Final exam

## 3. Strategies and approaches to learning

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### 3.1 Learning and teaching activities

This course provides an advanced treatment of the neuroscience of learning and memory. It follows on, and assumes knowledge, from PSYC2081 Learning and Physiological Psychology. This course is complementary to PSYC3051 Physiology Psychology in the sense that both courses provide an advanced perspective on issues in biological psychology.

The laboratory component of the course will provide opportunities for observing various aspects of rodent behaviour that are frequently used in studies on the psychobiology of memory and an opportunity for small group discussion/debate on various issues relevant to the material described in the lecture component of the course.

Attendance is recorded in the tutorial/lab component of the course. In order to meet the Course Learning Outcomes attendance at tutorials is essential in accordance with UNSW Assessment Implementation Procedure. Students are required to attend at least 80% of tutorial/lab classes, and be punctual in this attendance (i.e., coming late may mean that you will be marked as absent). **Students should ensure that their name has been marked on the class roll for each class that they attend.** Failure to meet these specified attendance requirements may result in course failure. Explanations for an occasional absence from a class or requests for permission to be absent from a class should be discussed with the lecturer/tutor, and where applicable, accompanied by a medical certificate.

The Discussion Forum on Moodle provides students with an opportunity to question and clarify course content. Students are strongly encouraged to engage with this forum by posting questions or comments, and reading, answering, or replying to other student's posts to enhance understanding of the content, critical thinking, and written communication skills.

An online formative quiz is available for students and provides an opportunity to evaluate understanding of course material prior to the census date.

### 3.2 Expectations of students

It is expected that students are aware of UNSW Assessment policy and understand how to apply for special consideration if they are unable to complete an assignment/exam due to illness and/or misadventure. It is also expected that students have read the School of Psychology Student Guide.

All new updates and announcements in the course will be made on the 'Announcements' forum on the Moodlepage and/or by email. It is the student's responsibility to check Moodle and their student emails regularly to keep up to date.

All students must read the Course Outline and then complete the Course Information Quiz to demonstrate their understanding of course administration information.

The midterm exam in this course will be an in-person exam held during a regularly scheduled lecture time in Week 4; students must attend this exam, but if unable to do so must submit a special consideration request. The final exam for this course will take place during the UNSW examination period. Students should not arrange travel during the UNSW exam period until the date of the final exam has been released. Students who arrange travel prior to the release of the final exam date will not be granted consideration in the event they are scheduled to be away when the final exam is to occur.

Students registered with Equitable Learning Services must contact the course coordinator immediately if they intend to request any special arrangements for later in the course, or if any special

arrangements need to be made regarding access to the course material. Letters of support must be emailed to the course coordinator as soon as they are made available.

## 4. Course schedule and structure

Each week this course typically consists of approximately 2 hours of lecture material, 1.25 hours of tutorials, and 8 hours of online modules and/or self-determined activities (i.e., reading, work on assessments, exam preparation, and revision).

Week	Lecture topic/s	Tutorial/lab topics	Online modules	Self-determined activities
<b>Week 1</b> 13/02/2023	Memory consolidation and modulation	how to write a research proposal  “critical analysis” examples	see course Moodle page for details for any specific modules for this week	Reading(s) on memory consolidation and modulation  Revision; mid-semester exam prep; group work on research proposal
<b>Week 2</b> 20/02/2023	“Types” of memory	Animal exercises critical analysis examples	see course Moodle page for details for any specific modules for this week	Reading(s) on “types” of memory  Revision; mid-semester exam prep; group work on research proposal
<b>Week 3</b> 27/02/2023	Forgetting  Behavioral and neural aspects of fear extinction (Part 1)	Animal exercises	see course Moodle page for details for any specific modules for this week  Formative quiz	Reading(s) on forgetting and extinction  Revision; mid-semester exam prep; group work on research proposal
<b>Week 4</b> 6/03/2023	Behavioural and neural aspects of fear extinction (Part 2)  <b>Midterm exam (during scheduled lecture time on Friday 10/3/2023)</b>	Animal exercises	see course Moodle page for details of any specific modules for this week	Reading(s) on extinction  Revision; mid-semester exam prep; group work on research proposal

<b>Week 5</b> 13/03/2023	Mechanisms of sex differences in extinction (Part 1)  Mechanisms of sex differences in extinction (Part 2)	Animal exercises	see course Moodle page for details for any specific modules for this week	Reading(s) on neural mechanisms of fear extinction  Revision; mid-semester exam prep; group work on research proposal
<b>Week 6</b> 20/03/2023	No lectures – Flex week	No labs – Flex week		No work – Flex week
<b>Week 7</b> 27/03/2023	Stress, sex, and learning  Motherhood	Group presentations of research proposal	see course Moodle page for details for any specific modules for this week	Reading(s) on: <ul style="list-style-type: none"> <li>• sex differences</li> <li>• sex hormones and memory</li> </ul> Revision; individual work on research proposal
<b>Week 8</b> 03/04/2023	TBA  Note: will be one live lecture on Monday, and one recorded lecture due to no classes on Friday	Online unlearned fear tutorial (do in your own time)	see course Moodle page for details for any specific modules for this week	Reading(s) on: <ul style="list-style-type: none"> <li>• motherhood</li> <li>• stress</li> </ul> Revision; individual work on research proposal
<b>Week 9</b> 10/04/2023	TBA  Note: will be one live lecture on Monday, and one recorded lecture due to no classes on Monday	No tutorial activities this week	see course Moodle page for details for any specific modules for this week	Reading(s): TBA  Revision; individual work on research proposal
<b>Week 10</b> 19/04/2023	Intergenerational transmission of learning  Individual differences in memory	Ethics	see course Moodle page for details for any specific modules for this week	Reading(s) on individual differences  Revision; individual work on research proposal
<b>Exam period</b> 25/04/2023				Exam preparation, revision



## 5. Assessment

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### 5.1 Assessment tasks

All assessments in this course have been designed and implemented in accordance with UNSW Assessment Policy.

Assessment task	Length	Weight	Mark	Due date
<b>Assessment 1:</b> Formative quiz	3 MCQ & 1 short answer	0% (formative)	N/A	N/A
<b>Assessment 2:</b> Mid-session exam	45 min	20%	/100	10/03/2023
<b>Assessment 3:</b> Research proposal	1000-1250 words	30%	/100	21/04/2023
<b>Assessment 4:</b> Final exam	2 hrs	50%	/100	Exam period

**Assessment 1:** This online quiz will consist of 3 multiple-choice questions and one short-answer question (may be released separately), and will be released on/before Friday 3 March. Students can take it whenever they wish, but it is designed to provide some formative feedback in terms of whether the course material is being understood. The answers are given at the end of the quiz.

**Assessment 2:** This 45-min **in-person** exam (could consist of multiple choice, short- and/or long-answer, and/or fill-in-the-blank questions; more specific details will be provided prior to the exam) will be given on Friday 10 March at 2-3 pm (i.e., in regularly-scheduled lecture time period). This exam will be based on material covered in the first five lectures in the course (all by RR). In addition, any readings designated as “assessable” on the course Moodle page for those lectures are also assessable. Material presented in tutorials or in designated online modules in the first 3 weeks may also be assessed.

**Assessment 3:** This involves a written research proposal on a proposed experiment (based on material/ideas covered in the course). An electronic version of the assignment must be submitted to the course’s Moodle module by 4 PM on 21<sup>st</sup> April (Friday of Week 10) to allow for plagiarism checks via Turnitin. Maximum length of the proposal is 1250 words (from 1<sup>st</sup> word in main text to last word in main text; that is, title page and references not included in the count), and a 1 mark penalty will be imposed for every 50 words over the limit (specifically, being 1-50 words over will result in the loss of 1 mark, being 51-100 words over the limit will result in the loss of 2 marks, etc). Penalties will also be imposed for late submission of this assignment (see 5.3), and for plagiarism. The deadline for absolute fail (i.e., **the date of submission after which the task will not be assessed is 4 pm on 26<sup>th</sup> April; any proposals submitted after that time will be given a 0**).

**Assessment 4:** This 2-hr exam (which could consist of multiple choice, short- and/or long-answer, and/or fill-in-the-blank questions; more specific details will be provided prior to the exam) will be given during the formal exam period. This exam will cover material from the lectures given in Weeks 3-10 of the course (just the second lecture in week 3). In addition, the readings designated as “assessable” on the course Moodle page for those lectures is also assessable. Material presented in tutorials or in designated online modules in Weeks 4-10 may also be assessed. Note that **the material covered on the midterm exam will not be examined in the final exam (i.e., the final exam will not contain any questions about the material from the first five lectures in the course, as that material was assessed in the midterm).**

Note that for the exams, if a question asks for the details of 1 (or maybe 2) specific experiments in a series of experiments, providing details of additional experiments in that series will result in the maximum available marks for that question being half that originally available. More explicitly, let’s say 5 experiments were described in lectures (or a reading designated as being assessable) on some

particular topic (e.g., memory consolidation). On the exam, you are asked to describe one specific experiment in that series (and that experiment is clearly indicated by the question) but you insert text describing all 5 experiments, then the maximum marks you could get for that question would be 50% of the marks allocated. Also note that merely attaching a pdf of a designated assessable reading as the answer is unacceptable and will result in a mark of 0 as well as a referral for plagiarism.

## 5.2 Assessment criteria and standards

Further details and marking criteria for each assessment will be provided to students closer to the assessment release date (see 4.1 UNSW Assessment Design Procedure).

**UNSW grading system:** <https://student.unsw.edu.au/grades>

**UNSW assessment policy:** <https://student.unsw.edu.au/assessment>

## 5.3 Submission of assessment tasks

**Assessment 3:** In accordance with UNSW Assessment Policy the research proposal must be submitted online via Turnitin. No paper or emailed copies will be accepted.

**Late penalties:** Deduction of marks for late submissions will be in accordance with UNSW and School policy. The School of Psychology Student Guide will be posted on Moodle. Unless an extended deadline has been granted, if the Research Proposal is submitted late, but within five days (120 hours) of the initial deadline, 5% of the maximum possible mark for that assignment will be deducted for each day (including weekend days) it is overdue. Students can submit an assessment late, incurring the late penalty, until the “overdue submission deadline”. The overdue submission deadline is five days (120 hours) after the initial deadline. Therefore, the last day for submission of the proposal is Wednesday in Week 11 (at 3:59 PM). Any assessment submitted after the overdue submission deadline will not be marked and will result in a mark of zero for the assessment. In determining whether an assignment is overdue, the date it was submitted online via Moodle will be used. Students are expected to manage their time to meet deadlines and to request extensions via the Special Consideration process as early as possible before the deadline.

**Special Consideration:** Students who are unable to complete an assessment task by the assigned due date can apply for special consideration. Applications for special consideration must be submitted within 3 working days of the assessment due date along with a physical copy of the supporting documentation. Students who have experienced significant illness or misadventure during the assessment period may be eligible. Only circumstances deemed to be outside of the student’s control are eligible for special consideration (see - <https://student.unsw.edu.au/special-consideration> - for details and application form).

**Alternative assessments:** will be subject to approval and implemented in accordance with UNSW Assessment Implementation Procedure.

**Supplementary examinations:** will be made available for students with approved special consideration application and implemented in accordance with UNSW Assessment Policy.

## 5.4. Feedback on assessment

Feedback on all pieces of assessment in this course will be provided in accordance with UNSW Assessment Policy.

Assessment	When	Who	Where	How
Formative quiz	Immediate	Richardson	Online	Moodle
Mid-session exam	24/03/2023	Richardson	Online	Moodle
Research proposal	05/05/2023	Tutor	Online	Moodle
Final exam	TBA	N/A	N/A	N/A

## 6. Academic integrity, referencing and plagiarism

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The APA (7<sup>th</sup> edition) referencing style is to be adopted in this course. Students should consult the publication manual itself (rather than third party interpretations of it) in order to properly adhere to APA style conventions. Students do not need to purchase a copy of the manual as it is available in the library or online. This manual is used by assessment markers and should be the only resource used by students to ensure they adopt this style appropriately.

**Referencing** is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas, or research. Not referencing other people's work can constitute plagiarism.

Further information about referencing styles can be located at <https://student.unsw.edu.au/referencing>

**Academic integrity** is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility, and courage.<sup>1</sup> At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.

Further information about academic integrity and **plagiarism** can be located at:

- The *Current Students* site <https://student.unsw.edu.au/plagiarism>, and
- The *ELISE* training site <http://subjectguides.library.unsw.edu.au/elise>

The *Conduct and Integrity Unit* provides further resources to assist you to understand your conduct obligations as a student: <https://student.unsw.edu.au/conduct>.

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<sup>1</sup> International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

## 7. Readings and resources

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Textbook	Nil
Course information	Available on Moodle
Required readings	<a href="#">School of Psychology Student Guide</a> . Refer to Section 4 of this outline and the Assessable Readings listed under each week on Moodle
Recommended internet sites	<a href="#">UNSW Library</a> <a href="#">UNSW Learning Centre</a> <a href="#">ELISE</a> <a href="#">Turnitin</a> <a href="#">Student Code of Conduct</a> <a href="#">Policy concerning academic honesty</a> <a href="#">Email policy</a> <a href="#">UNSW Anti-racism policy statement</a> <a href="#">UNSW Equity and Diversity policy statement</a> <a href="#">UNSW Equal opportunity in education policy statement</a>

## 8. Administrative matters

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The [School of Psychology Student Guide](#) contains School policies and procedures relevant for all students enrolled in undergraduate or Masters psychology courses, such as:

- Attendance requirements
- Assignment submissions and returns
- Assessments
- Special consideration
- Student code of conduct
- Student complaints and grievances
- Equitable Learning Services
- Health and safety

It is expected that students familiarise themselves with the information contained in this guide.

## 9. Additional support for students

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- The Current Students Gateway: <https://student.unsw.edu.au/>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>
- Equitable Learning Services: <https://student.unsw.edu.au/els>
- UNSW IT Service Centre: <https://www.it.unsw.edu.au/students/index.html>