



Course Outline

PSYC3211

Cognitive Science

School of Psychology

Faculty of Science

T1, 2019

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1. Staff

| Position | Name | Email | Consultation times and locations | Contact Details |
|-----------------|-----------------------|--|----------------------------------|-----------------|
| Course Convenor | Prof Ben Newell | ben.newell@unsw.edu.au | By appointment Mathews 701 | 9385 1606 |
| Lecturers | Prof Brett Hayes | b.hayes@unsw.edu.au | By appointment Mathews 713 | 9385 3713 |
| | A/Prof Mike Le Pelley | m.lepelley@unsw.edu.au | By appointment Mathews 1003 | 9385 1294 |
| | A/Prof Chris Donkin | c.donkin@unsw.edu.au | By appointment Mathews 706 | 9385 9444 |
| Tutors | Mr Joel Holwerda | j.holwerda@unsw.edu.au | | |
| | Mr Aba Szollosi | aba.szollosi@unsw.edu.au | | |

2. Course information

| | |
|--------------------------------------|------------------------------------|
| Units of credit: | 6 |
| Pre-requisite(s): | PSYC2001 and PSYC2071 |
| Teaching times and locations: | PSYC3211 Timetable |

2.1 Course summary

This course will provide you with an advanced-level understanding of the current theories, methods and controversies in four key areas of cognitive psychology: 1) intelligence and thinking; 2) judgment and decision-making; 3) memory and 4) categorisation and reasoning. The *Intelligence and Thinking* strand will address questions like: What is intelligence? Do IQ tests really measure intelligence (and if not, what DO they measure)? The Judgment and *Decision-making* asks and answers questions like: Do we make rational decisions? Are we constrained to fall prey to systematic biases when we make judgments? Are we risk averse and if so what does that mean? It will also cover the burgeoning field of “behavioural insights” and the tools to ‘nudge’ people to change their behaviour. The (Models of) Memory strand focuses on the development and testing of computational models of working memory and long-term memory. The component is focused on how quantitative instantiations of models are necessary to provide a rigorous test of psychological theories. The *Categorisation and Reasoning* strand examines how and why people organise things in their physical and social environment into groups (e.g., dogs vs. cats, male vs. female, left-wing politician vs. right-wing politician)?, and how to they use such knowledge to reason and make predictions.

2.2 Course aims

This course aims to provide you with an advanced-level understanding of the current theories, methods and controversies in four key areas of cognitive psychology: 1) intelligence and thinking; 2) judgment and decision-making; 3) models of memory and 4) categorisation and reasoning. It will equip you with a broad understanding of the core principles of cognition, and give you the tools to think about how to improve reasoning, decision and memory processes across a range of applied areas (e.g., medical, legal, environmental and financial).

2.3 Course learning outcomes (CLO)

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

1. Demonstrate an advanced understanding of historical perspectives, key topics and empirical research in cognitive science.
2. Describe, apply and evaluate research methods used in cognitive science.
3. Apply critical thinking skills in order to intellectually engage with literature, differentiate quality empirical evidence from speculation, develop an argument and critique those of others.
4. Demonstrate effective scientific communication skills and collaborate ethically and efficiently in a group.
5. Demonstrate knowledge of how key topics in cognitive science are linked and how they can be integrated to solve applied problems.

2.4 Relationship between course and program learning outcomes and assessments

| Program Learning Outcomes | | | | | | | |
|---------------------------|---|---|---|---|--|---|---|
| CLO | 1. Knowledge | 2. Research Methods | 3. Critical Thinking Skills | 4. Values and Ethics | 5. Communication, Interpersonal and Teamwork | 6. Application | Assessment |
| 1. | Lectures, tutorials, online modules, revision quizzes | Lectures, tutorials, online modules, revision quizzes | | | | | Mid-session exam, Final exam |
| 2. | Lectures, tutorials, online modules, revision quizzes | Lectures, tutorials, online modules, revision quizzes | Lectures, tutorials, online modules, revision quizzes | | | Lectures, tutorials, online modules, revision quizzes | Mid-session exam, Research Report, Final exam |
| 3. | Lectures, tutorials, online modules, revision quizzes | Lectures, tutorials, online modules, revision quizzes | Lectures, tutorials, online modules, revision quizzes | | | | Mid-session exam, Research Report, Final exam |
| 4. | | | | | Tutorials, presentations, online activities | | Research Report |
| 5. | Lectures, tutorials, online modules, revision quizzes | | | Lectures, tutorials, online modules, revision quizzes | | Lectures, tutorials, online modules, revision quizzes | Mid-session exam, Research Report, Final exam |

3. Strategies and approaches to learning

3.1 Learning and teaching activities

This course provides an advanced treatment of cognitive psychology. It follows on, and assumes knowledge, from PSYC2071 Perception and Cognition.

Lectures: The primary objective of the lecture course is to investigate cognition in depth and to relate different areas of cognition to each other. You should come away from the course with a good understanding of the main issues in current research on categorisation, reasoning, memory, intelligence and decision making. The main aim is to provide a conceptual understanding of the issues. The mid-session and final exam will test this understanding. We shall attempt to pose questions in this exam that test your conceptual understanding rather than your ability to reproduce the lecture notes.

Tutorials: The tutorials will be a combination of demonstrations of 'classic' experimental phenomena, hands on implementation of computational tools and the opportunity to devise, implement and analyse an experiment. As such the tutorials teach specific skills that are of central importance to cognitive scientists. These are: 1) to critically evaluate empirical findings and journal articles; 2) to design novel tests of existing theories and to implement those designs in laboratory-based experiments.

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 expected that students have read through the School of Psychology Student Guide.

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

The final exam for this course will take place on campus during the UNSW examinations 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 out of country when the final exam is to occur. This is especially important for study abroad students – do not arrange travel home until the final exam date has been released.

Students registered with Disability Support Services must contact the course co-ordinator 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 2 hours of face-to-face lecture material, 2 hours of face-to-face 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 |
|-----------------------------|--------------------------------------|---|---|--|
| Week 1 18/02/2019 | Decision Making (1-2) | No tutorial | Decision Making Revision Quiz | Assigned readings |
| Week 2 25/02/2019 | Decision Making (3-4) | Research Experiment Design & Methods | Decision Making Revision Quiz Decision Making Module | Assigned readings; Revision; Mid-semester exam |
| Week 3 4/03/2019 | Decision Making (5) Reasoning (1) | Reasoning Practical | Decision Making (6) Decision Making Revision Quiz | Assigned readings; revision; mid-semester exam prep; work on research report |
| Week 4 11/03/2019 | Reasoning (2-3) | Exam on first topic (mid-session) in class | Reasoning (4) Reasoning Revision Quiz | Assigned readings; revision; mid-semester exam prep; work on research report |
| Week 5 18/03/2019 | Reasoning (5-6) | Research Experiment (Analysis) | Reasoning Revision Quiz Reasoning Module | Assigned readings; revision; mid-semester exam prep; work on research report |
| Week 6 25/03/2019 | Memory (1-2) | Memory Practical | Memory Revision Quiz | Assigned readings; revision; mid-semester exam prep; work on research report |
| Week 7 1/04/2019 | Memory (3-4) | Research Experiment – Group discussion and data collation | Memory (5) Computational Models Module | Assigned readings; revision; work on research report; final exam prep. |
| Week 8 8/04/2019 | Memory (6) Intelligence (1) | Research Experiment- Presentations | Intelligence Revision Quiz | Assigned readings; revision; work on research report; final exam prep. |

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|----------------------------------|---|-----------------------------------|---|--|
| Week 9 15/04/2019 | Intelligence (2-3) | Intelligence & Thinking Practical | Intelligence Revision Quiz Intelligence Module | Assigned readings; revision; work on research report; final exam prep. |
| Week 10 22/04/2019 | Intelligence (4) (NO MONDAY LECTURE) | No tutorial | Intelligence (5&6) All topics revision Quiz | Assigned readings; revision; work on research report; final exam prep. |
| Study period 2/05/2019 | | | | Exam preparation, revision |
| Exam period 6/05/2019 | | | | Exam preparation, revision |

5. Assessment

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 |
|---|------------|----------------|------|-----------------|
| Assessment 1: Topic revision MC quizzes | 3-5 MCQ | 0% (formative) | N/A | N/A |
| Assessment 2: Mid-session exam | 1 hour | 15% | /100 | Week 4 tutorial |
| Assessment 3: Experimental research report and group presentation. | 1750 Words | 40% | /100 | 25/04/2019 |
| Assessment 4: Final exam | 2 hours | 45% | /100 | Exam period |

Assessment 2: A mid-session exam in Week 6 will be worth 15% of the total mark. The exam will be conducted in tutorial/ laboratory classes. This will assess the course content from the lectures on the first topic taught in the course. It will comprise of Multiple Choice and short answer essay questions.

Assessment 3: The Written Assignment will begin in the tutorial in Week 3 and will be due by midnight on Thursday 25th April, Week 10. In this assignment you will work in groups to design and conduct an experiment, and analyze the data. You will write up an INDIVIDUAL lab report communicating the results and give an oral presentation in groups. This assignment has a limit of 1750 words. The presentation is worth 5% and the report is worth 35% of the total mark.

Assessment 4: The final exam will be worth 45% of the total mark – it will assess content from lectures not assessed by the Mid-session exam. It will comprise 6 short answer essay questions.

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

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

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).

5.3 Submission of assessment tasks

Research report: In accordance with UNSW Assessment Policy this 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 School policy (see: [Psychology Student Guide](#)).

Special Consideration: Students who are unable to complete an assessment task by the assigned due date can apply for special consideration. Students should also note that UNSW has a Fit to Sit/Submit rule for all assessments. If a student wishes to submit an application for special

consideration for an exam or assessment, the application must be submitted prior to the start of the exam or before an assessment is submitted. If a student sits the exam/submits an assignment, they are declaring themselves well enough to do so and are unable to subsequently apply for special consideration. If a student becomes ill on the day of the exam, they must provide evidence dated within 24 hours of the exam, with their application.

Special consideration applications must be submitted to the online portal along with Third Party 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. Except in unusual circumstances, the duration of circumstances impacting academic work must be more than 3 consecutive days, or a total of 5 days within the teaching period. If the special consideration application is approved, students may be given an extended due date, or an alternative assessment/supplementary examination may be set. For more information see <https://student.unsw.edu.au/special-consideration>.

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 |
|------------------------------|------------|--------|--------|--------|
| Topic revision quizzes | Immediate | Newell | Online | Moodle |
| Mid-session exam | 29/03/2019 | Newell | Online | Moodle |
| Experimental research report | 10/05/2019 | Tutors | Online | Moodle |
| Final exam | N/A | N/A | N/A | N/A |

6. Academic integrity, referencing and plagiarism

The APA (6th 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, it is available in the library or online. This resource is used by assessment markers and should be the only resource used by students to ensure they adopt this style appropriately:

[APA 6th edition.](#)

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.¹ 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>.

7. Readings and resources

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|-----------------------------------|---|
| Textbook (suggested) | A suggested text for the Intelligence Component is: Mackintosh, N. <i>IQ and Human Intelligence 2e</i> A suggested text for the Decision Making component is Newell et al. <i>Straight Choices: The Psychology of Decision Making 2e</i> |
| Course information | Available on Moodle |
| Required readings | Specific readings will be provided during the course lectures and tutorials. School of Psychology Student Guide . |
| Recommended internet sites | UNSW Library UNSW Learning Centre ELISE Turnitin Student Code of Conduct Policy concerning academic honesty Email policy UNSW Anti-racism policy statement UNSW Equity and Diversity policy statement UNSW Equal opportunity in education policy statement |

8. Administrative matters

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

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

- Student code of conduct
- Student complaints and grievances
- Disability Support Services
- Health and safety

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

9. Additional support for students

- 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>
- Disability Support Services: <https://student.unsw.edu.au/disability-services>
- UNSW IT Service Centre: <https://www.it.unsw.edu.au/students/index.html>