COGS301
Current Problems in Cognitive Science
S2 Day 2017
Department of Cognitive Science

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https://unitguides.mq.edu.au/unit_offerings/72248/unit_guide/print
# General Information

<table>
<thead>
<tr>
<th>Unit convenor and teaching staff</th>
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<tbody>
<tr>
<td>Convenor</td>
</tr>
<tr>
<td>David Kaplan</td>
</tr>
<tr>
<td><a href="mailto:david.kaplan@mq.edu.au">david.kaplan@mq.edu.au</a></td>
</tr>
<tr>
<td>AHH 3.822</td>
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<td>By appointment and Thursdays 3-4</td>
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<table>
<thead>
<tr>
<th>Credit points</th>
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<tbody>
<tr>
<td>3</td>
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<table>
<thead>
<tr>
<th>Prerequisites</th>
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</thead>
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<tr>
<td>(39cp at 100 level or above) including COGS202</td>
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## Unit description

Despite the explosive growth in recent decades of the cognitive and brain sciences, an abundance of fundamental problems remain unanswered. This unit provides students with the opportunity to think broadly and critically about the pressing issues facing cutting-edge cognitive science, and explore the theoretical and methodological foundations of this research. Students will have the opportunity to pursue a significant, independent research project exploring the primary scientific literature and latest findings on their chosen topic. Guest lectures cover recent developments and controversies in cognitive science, and other online resources will help to situate this focused project within the broader landscape of cognitive science. Throughout this unit, strong emphasis will be placed on effective scientific communication; the consolidation of acquired knowledge and skills; and the deepening of one's understanding of active problems in cognitive science research.

# Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at [https://students.mq.edu.au/important-dates](https://students.mq.edu.au/important-dates)

# Learning Outcomes

1. Demonstrate independent research capability to investigate and analyse open problems in the field.
2. Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
3. Successfully identify latent strengths and limitations of current cognitive science research
4. Explain current theories, methods, and findings in basic and applied cognitive science.

General Assessment Information

Attendance Policy

Students are expected to attend all meetings and come prepared to participate actively in discussions. Roll will be taken. If you cannot attend a particular meeting, please email Dr Kaplan (david.kaplan@mq.edu.au) BEFORE the class.

Late Policy

Late submission of an assignment will attract a penalty of 5% of the maximum mark for every day that the assignment is late (including weekend days). For example, if the assignment is worth 40 marks and your assignment is submitted 2 days late, a penalty of 2\( \times 5\% \times 40 = 4 \) marks will be applied and subtracted from the awarded mark for the assignment. Work submitted more than 14 days after the submission deadline will not be marked and will receive a mark of 0. Please note that it is the student’s responsibility to notify the University of a disruption to their studies and that requests for extensions for assignments must be made via the University’s Ask MQ System (as outlined in the Disruption to Studies Policy).

Submission of work via iLearn

You are required to submit all of your written work via iLearn, using the Turnitin submission tool. Please do not email files to the unit convenor. If you need a refresher, please use the step-by-step guide on how to submit a Turnitin assignment.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
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<tbody>
<tr>
<td>Individual/group presentation</td>
<td>20%</td>
<td>No</td>
<td>Week 5</td>
</tr>
<tr>
<td>Commentary Paper 1</td>
<td>15%</td>
<td>No</td>
<td>Week 6</td>
</tr>
<tr>
<td>Commentary Paper 2</td>
<td>15%</td>
<td>No</td>
<td>Week 10</td>
</tr>
<tr>
<td>Research Paper</td>
<td>50%</td>
<td>No</td>
<td>Week 13</td>
</tr>
</tbody>
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Individual/group presentation

Due: Week 5
Weighting: 20%

Students will be given both an overall group presentation grade and an individual grade based
on short write-ups detailing their individual contribution. Group presentation component (5%); individual written component (15%).

This Assessment Task relates to the following Learning Outcomes:

- Demonstrate independent research capability to investigate and analyse open problems in the field.
- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research.
- Explain current theories, methods, and findings in basic and applied cognitive science.

Commentary Paper 1

Due: Week 6
Weighting: 15%

Highly structured essay designed to teach students to read, summarise, and think critically about research in cognitive and brain sciences. 750 words maximum.

This Assessment Task relates to the following Learning Outcomes:

- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research.
- Explain current theories, methods, and findings in basic and applied cognitive science.

Commentary Paper 2

Due: Week 10
Weighting: 15%

Highly structured essay designed to teach students to read, summarise, and think critically about research in cognitive and brain sciences. 750 words maximum.

This Assessment Task relates to the following Learning Outcomes:

- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research.
- Explain current theories, methods, and findings in basic and applied cognitive science.

Research Paper

Due: Week 13
Weighting: 50%
Critical evaluation and analysis of a topic related to some aspect of the unit content. Topics may be self-selected but are subject to instructor approval. 2000-3000 words maximum.

This Assessment Task relates to the following Learning Outcomes:

- Demonstrate independent research capability to investigate and analyse open problems in the field.
- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research
- Explain current theories, methods, and findings in basic and applied cognitive science.

**Delivery and Resources**

**Delivery**

Seminar discussions are held weekly, starting in Week 1 on Thursdays from 1-3PM in the Australian Hearing Hub, Level 3 (3.610).

**Readings**

All readings are available through iLearn and the Library.

**iLearn**

You will need access to the internet to access the unit's iLearn page. You are also required to submit assessment tasks via iLearn, using the Turnitin submission tool. If you are not already familiar with these, please allow time to familiarise yourself with how to access iLearn and how to submit a Turnitin assignment.

**Recommended resource on academic honesty**

The learning skills team at Macquarie University has designed an Academic Integrity Module for you to enrol in to help you learn about:

- What "academic integrity" is and why it's important
- Acceptable and unacceptable academic behaviours at university
- What 'plagiarism' is and key strategies to avoid it
- Your responsibilities in relation to academic integrity and your rights under the Macquarie University Academic Honesty Policy.

**Unit Schedule**
Week 1 (3 August). What is Cognitive Science?

Required Readings


Supplementary Readings (and YouTube Videos)

3. *Cognition in daily life*. YouTube. UC Davis Cognitive Science Club. [https://www.youtube.com/watch?v=SZqq8bj3C9c](https://www.youtube.com/watch?v=SZqq8bj3C9c)

Week 2 (10 August). Where Did Cognitive Science Come From (Part I)?

Required Readings


Supplementary Readings


Week 3 (17 August). Where Did Cognitive Science Come From (Part II)?

Required Readings

http://dingo.sbs.arizona.edu/~massimo/publications/PDF/LN&MPPIntro.pdf

**Week 4 (24 August). Levels and Explanation**

*Required Readings*


*Required Readings*


*Supplementary Readings*

   http://dx.doi.org/10.1177%2F1745691612469208  
   http://dx.doi.org/10.1177%2F1745691612469022  
   http://dx.doi.org/10.1177%2F1745691612469037

**Week 6 (7 September). Models, Hypotheses, and Inferences**

*Required Readings*

http://dx.doi.org/10.1177/


**Supplementary Readings**


**Week 7 (14 September). Laboratory Analogues: Likenesses Not Replicas**

**Required Readings**


**Supplementary Readings (General)**


**Supplementary Readings (Clinical Conditions and Laboratory Analogues)**


**Week 8. (5 October). The Power of Converging Evidence**

**Required Readings**


**Supplementary Readings**


**Week 9 (12 October). Fundamentals of Research Design**

**Required Reading**


**Supplementary Readings**


**Week 10 (19 October). Current Burning Questions in Cognitive Science**

No required readings this week. Explore the work of at least one of the researchers below. Start with their webpage and read one of their recent articles and one of their popular/press pieces:

- Dr Nicholas Badcock: https://www.cogsci.mq.edu.au/members/profile.php?memberID=619
- Dr Wei He: https://www.cogsci.mq.edu.au/members/profile.php?memberID=643
- Dr Charles Stone: http://www.jjay.cuny.edu/faculty/charles-b-stone
- Dr Hua-Chen Wang: https://www.cogsci.mq.edu.au/members/profile.php?memberID=266

**Week 11 (26 October). Frontiers of Cognitive Science**

*Required Readings*


**Week 12 (2 November).**
No readings this week. Presentations and class wrap up.

Week 13 (9 November)

No class this week; no readings. Essay due end of this week.

**Policies and Procedures**

Macquarie University policies and procedures are accessible from Policy Central. Students should be aware of the following policies in particular with regard to Learning and Teaching:


In addition, a number of other policies can be found in the [Learning and Teaching Category](http://mq.edu.au/policy/docs/learning_and_teaching_category) of Policy Central.

**Student Code of Conduct**

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: [https://students.mq.edu.au/support/student_conduct/](https://students.mq.edu.au/support/student_conduct/)

**Results**

Results shown in iLearn, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

**Student Support**

Macquarie University provides a range of support services for students. For details, visit [http://students.mq.edu.au/support/](http://students.mq.edu.au/support/)

**Learning Skills**

Learning Skills ([mq.edu.au/learningskills](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
Graduate Capabilities

Learned in deeper and more detailed form:

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Demonstrate independent research capability to investigate and analyse open problems in the field.
- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research
- Explain current theories, methods, and findings in basic and applied cognitive science.

Assessment tasks

- Individual/group presentation
- Commentary Paper 1
- Commentary Paper 2
- Research Paper
Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Demonstrate independent research capability to investigate and analyse open problems in the field.
- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.

Assessment tasks

- Individual/group presentation
- Research Paper

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Demonstrate independent research capability to investigate and analyse open problems in the field.
- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research
- Explain current theories, methods, and findings in basic and applied cognitive science.

Assessment tasks

- Individual/group presentation
- Commentary Paper 1
- Commentary Paper 2
- Research Paper
Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

**Assessment tasks**

- Commentary Paper 1
- Commentary Paper 2

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

**Learning outcomes**

- Demonstrate independent research capability to investigate and analyse open problems in the field.
- Critically evaluate contemporary cognitive science controversies by applying knowledge and problem-solving skills to examples from the field.
- Successfully identify latent strengths and limitations of current cognitive science research

**Assessment tasks**

- Individual/group presentation
- Commentary Paper 1
- Commentary Paper 2
- Research Paper

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:
Assessment task

- Research Paper

Changes since First Published

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<tr>
<th>Date</th>
<th>Description</th>
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<tbody>
<tr>
<td>04/08/2017</td>
<td>Changes to schedule of assessment tasks due dates.</td>
</tr>
<tr>
<td>31/07/2017</td>
<td>Typo</td>
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<tr>
<td>28/07/2017</td>
<td>Typo</td>
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