# COGS701

Research Frontiers in Cognitive Science

S1 Day 2016

Department of Cognitive Science

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General Information

Unit convenor and teaching staff
Anina Rich
anina.rich@mq.edu.au
Alexandra Woolgar
alexandra.woolgar@mq.edu.au

Credit points
4

Prerequisites
Admission to MRes

Corequisites

Co-badged status

Unit description
This unit will engage students in critical research issues in cognitive science. We examine the assumptions and methodological issues of the main techniques used across the different fields of cognitive science (e.g., neuroimaging, behavioural, and neuropsychological techniques). The unit will include seminars by experts in the various techniques and student-led analyses of recently published papers. The aim is to provide students with the tools to critically appraise published studies and the inferences made on the basis of experimental data. Activities are based on seminar attendance, directed reading of research articles, and critical discussion of research in both written and oral form.

Important Academic Dates
Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes
On successful completion of this unit, you will be able to:

- Acquire a coherent and advanced knowledge of current research in cognitive science.
- Identify and discuss complex problems with intellectual independence.
- Articulate clearly a coherent argument in written and oral form to a variety of audiences.
- Synthesize and analyze information from a variety of sources.
- Develop a high level of oral, written, and technological communication skills, with
specialisation for the specific needs of cognitive science.

General Assessment Information

Requirements to pass the unit

A passing grade is contingent on completion and submission of all assessments. **Failure to submit any assessments will automatically result in a fail grade and any subsequent pieces of work will not be assessed.**

Late Penalties

Late submission of an assignment will attract a penalty of 10% 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 $2 \times 10\% \times 40 = 8$ marks will be applied and subtracted from the awarded mark for the assignment. Work submitted more than 7 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**).

Final Grade

Your final grade is determined by your performance in meeting the learning outcomes for the unit. The Standard Numerical Grade (SNG) reflects the extent to which your performance matches the grade descriptors, as outlined in the **Macquarie University Grading Policy**. Please note that your final mark may be scaled and therefore may not necessarily be a raw sum of the marks received for the individual assessment tasks.

Questions about the assessment tasks?

Please email the unit convenors for clarification or questions about any of the assessments - we are happy to discuss essay directions in advance of submission if necessary.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Due</th>
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<tbody>
<tr>
<td>Participation</td>
<td>10%</td>
<td>Throughout course</td>
</tr>
<tr>
<td>Leading journal club</td>
<td>10%</td>
<td>Depends on topic signed up for</td>
</tr>
<tr>
<td>Critical Analysis Of A Paper</td>
<td>30%</td>
<td>2 weeks after leading paper</td>
</tr>
<tr>
<td>Critical issues in CogSci</td>
<td>50%</td>
<td>TBA</td>
</tr>
</tbody>
</table>

Participation

Due: **Throughout course**
The course alternates between lectures given by experts and student-led journal club discussions. In both sections there is ample opportunity for students to ask questions, contribute thoughts and participate. For the journal club weeks, all students need to read the selected paper critically and think about the issues, then contribute to the discussion within the group on the day.

On successful completion you will be able to:
- Acquire a coherent and advanced knowledge of current research in cognitive science.
- Develop a high level of oral, written, and technological communication skills, with specialisation for the specific needs of cognitive science.

Leading journal club
Due: Depends on topic signed up for
Weighting: 10%

Each student nominates a topic for which s/he will lead a paper discussion. This involves selecting a paper using the specific technique for the other students in the group to read, reading it critically and preparing, and then leading the student discussion on the day.

On successful completion you will be able to:
- Identify and discuss complex problems with intellectual independence.
- Develop a high level of oral, written, and technological communication skills, with specialisation for the specific needs of cognitive science.

Critical Analysis Of A Paper
Due: 2 weeks after leading paper
Weighting: 30%

This essay is a summary of the critical review of a particular article (usually the one analysed for the presentation, but can be different if the student so chooses).

We will be looking for evidence of:
[1] understanding of the goal, methods, analyses & results of the study
[2] critical and reflective thinking regarding potential issues with the study
[3] writing, clarity, and argument of the essay

On successful completion you will be able to:
- Identify and discuss complex problems with intellectual independence.
- Articulate clearly a coherent argument in written and oral form to a variety of audiences.
Develop a high level of oral, written, and technological communication skills, with specialisation for the specific needs of cognitive science.

Critical issues in CogSci

Due: TBA
Weighting: 50%

The essay should contain an introductory overview and presentation of a number (perhaps 3-4) of issues that arose during the course across the techniques. Shows understanding of the important issues, why they are important, perhaps examples of papers that have these flaws & what problems this raises for the authors’ interpretation.

(3000 words plus reference list)

We will be looking for evidence of:

[1] critical thinking and understanding of the selected issues

[2] writing, clarity, and argument

On successful completion you will be able to:

- Acquire a coherent and advanced knowledge of current research in cognitive science.
- Identify and discuss complex problems with intellectual independence.
- Articulate clearly a coherent argument in written and oral form to a variety of audiences.
- Synthesize and analyze information from a variety of sources.
- Develop a high level of oral, written, and technological communication skills, with specialisation for the specific needs of cognitive science.

Delivery and Resources

Delivery

Seminars are held weekly, starting in Week 1 of Session 1 on Fridays from 10-11.30am in the Australian Hearing Hub, Level 3, room 3.610.

We expect 100% attendance to the weekly seminars. If there are any issues with attendance, please email the unit convenors in advance of the class. We require students to participate in the discussion in the journal club seminars, which requires thorough reading of the assigned papers.

Resources

The required readings for this unit will be nominated by students.

Recommended readings will be given by lecturers after each lecture.

Slides and readings from each lecture will be available on this unit's iLearn page.
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 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

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

**Learning outcomes**

- Acquire a coherent and advanced knowledge of current research in cognitive science.
- Identify and discuss complex problems with intellectual independence.
- Develop a high level of oral, written, and technological communication skills, with specialisation for the specific needs of cognitive science.

**Assessment tasks**

- Participation
- Leading journal club
- Critical Analysis Of A Paper
- Critical issues in CogSci

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.
This graduate capability is supported by:

**Learning outcomes**

- Articulate clearly a coherent argument in written and oral form to a variety of audiences.
- Synthesize and analyze information from a variety of sources.

**Assessment tasks**

- Critical Analysis Of A Paper
- Critical issues in CogSci

**PG - Research and Problem Solving Capability**

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

**Learning outcomes**

- Identify and discuss complex problems with intellectual independence.
- Synthesize and analyze information from a variety of sources.

**Assessment task**

- Critical issues in CogSci

**PG - Effective Communication**

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

**Learning outcomes**

- Identify and discuss complex problems with intellectual independence.
- Articulate clearly a coherent argument in written and oral form to a variety of audiences.
- Develop a high level of oral, written, and technological communication skills, with specialisation for the specific needs of cognitive science.

**Assessment tasks**

- Participation
- Leading journal club
• Critical Analysis Of A Paper
• Critical issues in CogSci