



COGS3220

Advanced topics in Cognitive Science: Exploring Human-Technology Interactions

Session 2, Weekday attendance, North Ryde 2021

Department of Cognitive Science

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Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).



Visit the [MQ COVID-19 information page](#) for more detail.

General Information

Unit convenor and teaching staff

Unit Convener

Emily Cross

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Unit Convener

Nathan Caruana

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Credit points

10

Prerequisites

130cp including (COGS2000 or COGS202) and ((COGS2010 or COGS210) or COGS2020 or COGS2030 or COGS2040 or COGS2050)

Corequisites

Co-badged status

Unit description

This unit is one of the Advanced Topics in Cognitive Science units. This unit provides an overview of the fundamentals and latest research developments, challenges and opportunities of social robotics, virtual reality, and artificial intelligence, with a strong focus on the use of psychological and neuroscientific techniques. In particular, research discussed in this unit describes how these types of technology can be used as tools for advancing our understanding of human neurocognitive function. Topics include but are not limited to an introduction to artificial intelligence, history of social robotics, psychological methods for examining human-technology interaction, neuroscientific methods for examining human-technology interaction, developmental robotics, cross-cultural issues related to human-technology interactions, and the future of human-technology interactions. Tutorials will focus on reading and discussing 2 popular press books (one fiction, one non-fiction) concerning humans' relationship with technology, and will also feature students presenting an overview of the research they plan to propose in the final research proposal (the focus of the final exam assignment) and receive peer feedback and discussion on these ideas.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://students.mq.edu.au/important-dates>

Learning Outcomes

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

ULO1: Explain current concepts, theories, methods, and findings in the cognitive and brain sciences that relate to human-technology interactions.

ULO2: Identify strengths and limitations of recent research associated with using virtual reality, robotics, and AI in the cognitive and brain sciences.

ULO3: Discuss points of integration and conflict between technology and human cognitive and brain sciences.

ULO4: Critically evaluate issues and controversies in the cognitive and brain sciences with intellectual independence.

ULO5: Synthesise information from a wide variety of sources to formulate scientific arguments and ideas for new research directions.

General Assessment Information

Late Policy

Late submissions will receive a 5% per day penalty including weekends and public holidays. If you submit the assessment task 10 days or more beyond the due date, without an approved extension, you will be awarded a maximum of 50% of the overall assessment marks.

Assessment Tasks

Name	Weighting	Hurdle	Due
Critical reflection	15%	No	From Week 2. Complete both by Sunday 17th October (11.59 PM)
Group discussion lead	15%	No	Weeks 3-12 (in tutorial)
Proposal presentation	20%	No	Weeks 8-9 (in tutorial)
Research project proposal	50%	No	Sunday 31st October (11.59 PM)

Critical reflection

Assessment Type ¹: Report

Indicative Time on Task ²: 10 hours

Due: **From Week 2. Complete both by Sunday 17th October (11.59 PM)**

Weighting: **15%**

At two points during the session, students will post a critical reflection on big questions, ideas or controversies that were introduced in class or inspired by class material. Students will also comment on a post written by one of their classmates.

On successful completion you will be able to:

- Explain current concepts, theories, methods, and findings in the cognitive and brain sciences that relate to human-technology interactions.
- Discuss points of integration and conflict between technology and human cognitive and brain sciences.
- Synthesise information from a wide variety of sources to formulate scientific arguments and ideas for new research directions.

Group discussion lead

Assessment Type **1**: Facilitation

Indicative Time on Task **2**: 15 hours

Due: **Weeks 3-12 (in tutorial)**

Weighting: **15%**

Lead tutorial book discussion and submit a prepared set of questions and related issues to fuel class discussion.

On successful completion you will be able to:

- Identify strengths and limitations of recent research associated with using virtual reality, robotics, and AI in the cognitive and brain sciences.
- Discuss points of integration and conflict between technology and human cognitive and brain sciences.
- Critically evaluate issues and controversies in the cognitive and brain sciences with intellectual independence.

Proposal presentation

Assessment Type **1**: Presentation

Indicative Time on Task **2**: 20 hours

Due: **Weeks 8-9 (in tutorial)**

Weighting: **20%**

Pitch of research proposal idea for the final research project proposal, including submission of presentation materials used. Students will give feedback on each other's presentations.

On successful completion you will be able to:

- Identify strengths and limitations of recent research associated with using virtual reality, robotics, and AI in the cognitive and brain sciences.
- Critically evaluate issues and controversies in the cognitive and brain sciences with intellectual independence.

Research project proposal

Assessment Type ¹: Report

Indicative Time on Task ²: 40 hours

Due: **Sunday 31st October (11.59 PM)**

Weighting: **50%**

Research project proposal for new research study.

On successful completion you will be able to:

- Explain current concepts, theories, methods, and findings in the cognitive and brain sciences that relate to human-technology interactions.
- Identify strengths and limitations of recent research associated with using virtual reality, robotics, and AI in the cognitive and brain sciences.
- Discuss points of integration and conflict between technology and human cognitive and brain sciences.
- Critically evaluate issues and controversies in the cognitive and brain sciences with intellectual independence.
- Synthesise information from a wide variety of sources to formulate scientific arguments and ideas for new research directions.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment

- the [Learning Skills Unit](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

This unit involves essential on campus learning activities which will be delivered in accordance with a COVID Safe plan. You will be expected to attend relevant on campus activities unless the Public Health Order and/or University advice changes. Given the current COVID situation in NSW, all lectures for this unit will be delivered via Zoom (see iLearn for the link). It is likely that the first few tutorials will have to be transferred to online (via Zoom) also but that we will return to on-campus tutorials later in the Session. Please see the iLearn site for week-to-week information.

Required Reading for Unit (these two books will form part of our book club tutorial sessions for weeks 3 & 4 and weeks 11 & 12)

The Vestigial Heart : A Novel of the Robot Age by Carme Torres (translated by Josephine Swarbrick). Published by MIT Press, 2018. ISBN: 9780262037778

Artificial Intimacy : Virtual friends, digital lovers and algorithmic matchmakers by Rob Brooks. Published by NewSouth Publishing, 2021. ISBN: 1742236855

Individual readings related to each week's lecture will be posted, when relevant, to the relevant week's content on iLearn.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.s.mq.edu.au\)](https://policies.s.mq.edu.au). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au)

[du.au](#)) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) 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 or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

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

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Enquiry Service

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

Equity Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.