

## Module Template for New and Revised Undergraduate Modules<sup>1</sup>

<b>Module Code</b>	PSU12130
<b>Module Name</b>	Cognition and Brain
<b>ECTS credit weighting</b>	5 ECTS
<b>Semester taught</b>	Semester 2
<b>Module Coordinator/s</b>	Anusha Mohan
<b>Module Learning Outcomes with embedded Graduate Attributes</b>	<p><b>On successful completion of this module students should be able to:</b></p> <ul style="list-style-type: none"><li>• LO1: Understand basic theoretical models and perspective in cognitive psychology;</li><li>• LO2: Describe the broad functional divisions of the brain relevant for cognition;</li><li>• LO3: Describe and critique the methods used in cognitive neuroscience and understand how they help address different hypotheses about cognitive processes;</li><li>• LO4: Critically examine theoretical models of learning, attention, memory and executive control enabling them to evaluate experimental findings;</li><li>• LO5: Explain how findings from cognitive research can provide insights into individual differences and clinical impairments.</li><li>• LO6: Evaluate how findings from experimental psychology can influence cognition in daily life.</li></ul>
<b>Module Content</b>	<p>This module aims to provide a foundation in understanding core cognitive mechanisms of mind.</p> <p>Cognition and the Brain will introduce the study of the mind from the perspective of theoretical models of cognition, inspired by experimental psychology, and provide an introduction to the neural substrate of cognitive processes, led by contemporary models and methods in cognitive neuroscience.</p> <p>The module will provide foundations in philosophy of mind, experimental approaches to the study cognition and behaviour, and neuroscientific methods for understanding mechanisms of mind (e.g. fMRI, EEG and brain lesion analysis). Broad topics covered will include the role of different hemispheres in cognition, attention, memory, knowledge, intelligence, decision-making, goal-oriented behaviour as well as conscious and unconscious mental states. The role of modulatory influences on cognition will also be examined, from the influence of emotion, sleep and well-being to the long-term impact of aging, brain injury, neural plasticity and strategies for cognitive enhancement.</p> <p>Lecture topics:</p>

<sup>1</sup> [An Introduction to Module Design](#) from AISHE provides information on designing and re-designing modules.

1. Mind, Brain and You
2. Mind, Brain and Methods – I
3. Mind, Brain and Methods – II
4. Asymmetry in Brain and Cognition
5. Attention I: Models and Mechanisms
6. Attention II: Control Networks
7. Lived Experience of Neurological conditions
8. Memory I: Model and Mechanisms
9. Memory II: Control Networks
10. Consciousness and conscious perception
11. Unconscious perception and illusions
12. Cognitive control I: Goal Oriented Behaviour
13. Cognitive control II: Planning and Monitoring
14. Mental Imagery and Visual Arts
15. Intelligence
16. Interoception and Cognition
17. Sleep and Cognition
18. Ageing and Cognition
19. Emotion and Cognition
20. Embodied and Social Cognition

## Teaching and Learning Methods<sup>2</sup>

The format of lectures are conventional teaching combined with fireside chats with people with lived experience/artists. Students are encouraged to ask questions and to engage the lecturer in discussion or participate with in-class demonstrations where possible. Additional learning materials including articles, podcasts and videos will be provided through Blackboard to diversify the mode of learning.

### [Teaching strategies](#)

The module follows a learner-centred and transformative learning approach. By using the “padlet” and reflecting on the material shared on the padlet, students engage in an active learning environment, where they generate knowledge as a community towards a topic. Through engagement with people with lived experience and artists, they develop a real world perspective as to what the impact of their learning in this space can apply to.

### [Assessment design](#)

What is the rationale behind the selection of these strategies (approaches)?

- How do they support the learning required to achieve LO? - By having agency to generate knowledge for each topic through contribution to the padlet, they become active agents of learning. By reflecting on the alignment of the materials posted with the LOs, they gain a deeper understanding of how these materials are valuable to their learning.

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<sup>2</sup> [Trinity-INC](#) provides tips and resources on how to make your curriculum more inclusive.

- How do they support students in completing the assessments? - The sources can be referenced to in their reflective essays that they will write as part of their examination/assignment.
- How do they align with the mode of delivery and with the contact and independent study hours outlined above? -

### Assessment Details<sup>3</sup>

Please include the following:

- Assessment Component
- Assessment description
- Learning Outcome(s) addressed
- % of total

It is recommended that module co-ordinators consider assessment types used across the year to ensure varied assessment methods.

Assessment Component	Assessment Description	LO Addressed	% of total
Online engagement in small groups	Students will be divided into small groups of 10. The material will also be divided into 10 topics. Each student will nominate themselves to be a “leader” for a particular topic who will create a “padlet” for that topic. Each student apart from the leader will post a short news article, story, short video (5-10 mins), research paper abstract or any other short learning material on the padlet. The leader will then post a 50-60 word feedback on each of these posts describing how the post is relevant to the topic and any one learning outcome. <b>Contribution to the “padlet” and the feedback on each of these posts as the leader will account to this part of the grade.</b>	LO1-LO6	30%
Written Exam (OR) Assignment	<b>Pen-and-paper style final closed-book examination</b> with multiple choices and short answers.  (OR)  <b>A three-part coursework assignment – only for students with permission from the tutor to substitute the final exam.</b> Students choose to answer three questions, assessing each 1/3 of the course.	LO1-LO6	70%

<sup>3</sup> <https://www.tcd.ie/academicpractice/resources/assessment/>

	<p>Two questions require an 800-word essay and 200-word reflection on how they engaged with the course material to write the essay and one with an infographic and 200-word reflective essay. Students are expected to adhere to the topic areas covered in the course lectures and show evidence of engagement with lecture materials and the prescribed reading (linked to the lectures) in their answers.</p>		
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*Please describe both formative and summative assessment components, noting how the assessment(s) enable learning and enable demonstration of the achievement of the learning outcomes. Please include % weighting of summative assessment components, which should be carefully balanced between groupwork and individual components.*

By having students engage with a continuous assessment through commenting/reflecting on posts by fellow students and having a writer pen-and-paper style examination which is invigilated by 3-4 people in the room for a class of size 150, we can ensure the testing is AI-proof, adhering to academic integrity. For the students with permission to write an essay/assignment, there is also a reflective essay that is embedded with the essay question where they have to ensure

Outline how you would address academic integrity and AI-specific assessment considerations. Refer to the [Centre for Academic Practice GenAI](#) and [Academic Integrity hub](#) for guidance. (max 200 words).

**Contact Hours and Indicative Student Workload<sup>4</sup>**

<p><b>Contact hours: 20 hours</b></p>
<p><b>Independent Study (preparation for course and review of materials): 20</b></p>
<p><b>Independent Study (preparation for assessment, incl. completion of assessment): 60</b></p>

*Consider how much time an average student needs to invest in the elective to demonstrate the learning outcomes at threshold level. Take into account attendance and time for preparation, including self-study, for all teaching, learning and assessment associated with the module. Workload should be commensurate with ECTS size, which is equivalent to 100-125 student learning hours.*

<sup>4</sup> [https://www.tcd.ie/academicpractice/resources/assessment\\_workload/](https://www.tcd.ie/academicpractice/resources/assessment_workload/)

## Inclusive Curriculum

All modules should be inclusive for all students who learn differently. Please respond to the following questions (i.e. ensuring the course supports engagement and representation of all students)

	PLEASE TICK
1. Have you reviewed the teaching / assessment methods and materials for possible barriers to learning, e.g. students with English as a second language, disabilities, significant external responsibilities, students with IT issues / requiring specific accessibility software etc.?	<input checked="" type="checkbox"/>
2. Have you adapted your resources and teaching materials taking into account Trinity's Accessible Information Guidelines ( <a href="https://www.tcd.ie/disability/teaching-info/TIC/materials.php">https://www.tcd.ie/disability/teaching-info/TIC/materials.php</a> )?	<input checked="" type="checkbox"/>
3. Does the content of your module address diversity? For example, including a diverse demographic profile of authors, diversity of ideas and perspectives, or representation (e.g. pictures of conditions on different skin tones), or by acknowledgement of the homogenous context of the discipline/topic?	<input checked="" type="checkbox"/>
4. Highlight at least two ways which your course/module incorporates principles of inclusivity and accessibility into the curriculum design Part 1 of the assessment requires students to look up learning materials that are freely available to them on the internet. Padlet can be accessed through a smartphone and is freely available through Trinity.  Part 2 of the assessment offers the option to substitute the final exam for an assignment under special circumstances for a student with learning disabilities or other concerns around a final exam.  <i>(i.e. supports engagement and representation of <b>all</b> Trinity students, presents information and content in a variety of ways, and offers variety and options of assessment type. See: <a href="#">Universal Design for Learning - AHEAD</a> for more information and guidance, and <a href="#">Inclusive Curriculum - Equality - Trinity College Dublin (tcd.ie)</a> for insights from Trinity students)</i>	

## Indicative Reading List (approx. 4-5 titles)

### Indicative Resources

#### Core text:

1/ Cognitive Neuroscience: The biology of mind | 4e Gazzaniga, Ivry & Mangun.  
Norton

#### Supplementary texts:

2/Cognitive Psychology: Gilhooly, Lyddy and Pollick (2009)

3/Cognitive Psychology A student's handbook: Eysenck & Keane (7th edition)

**Additional reading:**

- The Cognitive Neurosciences / Edited by Michael Gazzaniga, 4e
- Searching for memory: the brain, the mind and the past / Daniel Schacter
- How the mind works / Steven Pinker
- Descartes' Error: Emotion, Reason, and the Human Brain / Antonio Damasio

**Websites:**

- <http://careersinpsychology.org/becoming-a-cognitive-neuroscientist/>
- <https://www.onlinepsychologydegree.info/30-most-influential-cognitive-psychologists-alive-today/>
- <http://www.mitpressjournals.org/loi/jocn>
- <http://www.tcd.ie/Neuroscience/>
- [http://en.wikibooks.org/wiki/Cognitive\\_Psychology\\_and\\_Cognitive\\_Neuroscience](http://en.wikibooks.org/wiki/Cognitive_Psychology_and_Cognitive_Neuroscience)

**Module Pre-requisite**

None

**Module Co-requisite**

None

**Are other Schools/Departments involved in the delivery of this module? If yes, please provide details.**

No