Module Title and Code
Cognition and the Brain (PSU12130)

Lecturer(s)
Dr Paul Dockree

Contact Hours
One semester: Hilary Term
22 lectures; 103 hours independent study

ECTS Value
5 ECTS (= 125 hours of student time)

Rationale and Aims
This module aims to provide a foundation in understanding core cognitive mechanisms of mind.

This module 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 cogntive neuroscience.

The module will provide foundations in philosophy of mind, experimental approaches to the study cognition and behaviour, and neuroscentific 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, decision-making, goal-oriented behaviour and 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 and strategies for cognitive enhancement. The influence of connectionist modelling for understanding mind will also be examined.

For whom is the module intended?

JF/SF

How does it fit in to the academic programme?
Cognition is a core foundation area within the discipline of psychology and these are required to be covered by the professional accreditation body, Psychological Society of Ireland.

Is it mandatory or optional?
Mandatory

Are there prerequisites?
Not for home students
PSU12150 Historical Foundations of Psychology for Visiting Students

From a teaching point of view, what are the intentions of the lecturer?

To orient students to the theoretical and conceptual developments in the field of cognition and introduce methods from experimental psychology and cognitive neuroscience that have helped to elucidate these core mental processes and their relevance to the understanding of our world.

Indicative Resources
Core text:
1/ Cognitive Neuroscience: The biology of mind | 4e Gazzaniga, Ivry & Mangun. Norton
2/Cognitive Psychology: Gilhooly, Lyddy and Pollick (2009)
3/Cogntive Psychology A student's handbook: Eysenck & Keane (7th edition)

Optional 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*

Journals:

- Cognition
- Brain and Cognition
- Journal of Experimental Psychology: Learning, Memory and Cognition
- Journal of Cognitive Neuroscience
- Neuropsychologia
- Memory and Cognition
- Trends in Cognitive Sciences

Learning Outcomes
On successful completion of this course, students will be able to:

- Understand basic theoretical models and perspective in cognitive psychology;
- Describe the broad functional divisions of the brain relevant for cognition;
- Describe the methods used in cognitive neuroscience and understand how they help address different hypotheses about cognitive processes;
- Critically examine theoretical models of learning, attention, memory and executive control enabling them to evaluate experimental findings;
- Explain how findings from cognitive research can provide insights into individual differences and clinical impairments.

- Evaluate how findings from experimental psychology can influence cognition in daily life.

Methods of Teaching and Student Learning

The format of lectures is conventional but students are encouraged to ask questions and to engage the lecturer in discussion where possible

Methods of Assessment

TBC

Evaluation

To be determined based on School policy on teaching evaluations.