

## COURSE SPECIFICATION

**NOTE:** ANY CHANGES TO A CSD MUST GO THROUGH ALL OF THE RELEVANT APPROVAL PROCESSES, INCLUDING LTPC.

**Academic School/Department:** Communications, Arts and Social Sciences

**Programme:** Psychology

**Level:** 6

**Module Title:** Cognitive Neuroscience

**Module Code:** PSY 6425

**Module Leader:** Antonio Rei Fidalgo

**Student Engagement Hours:** 120

Lectures: 30

Seminar / Tutorials: 15

Independent / Guided Learning : 75

**Semester:** Spring

**Credits:** 12 UK CATS credits

6 ECTS credits

3 US credits

### **Course Description:**

Cognitive neuroscience aims to explain cognitive processes and behaviour in terms of their underlying brain mechanisms. It is an exciting and rapidly developing field of research that straddles the traditional disciplines of psychology and biology. Cognitive neuroscientists take the view that knowledge about the fundamental mechanisms of the nervous system can lead to a deeper understanding of complex mental functions such as decision-making, schizophrenia, pain, sleep and memory. The course will emphasise the importance of combining information from cognitive experimental designs, epidemiologic studies, neuroimaging, and clinical neuropsychological approaches to understand cognitive processes. The first half of the course will offer a wider-range of current research topics. The latter part of the course will focus on the Faculty research specialisms to potentiate students' experience and learning. ***To put it simply: how does the brain think?***

**Prerequisites:** PSY 4205 and PSY4215

### **Aims and Objectives:**

This course is designed to provide an overview of current cognitive neuroscience topics and serve as an introduction to a burgeoning field of research. Lectures will introduce topics in

cognitive neuroscience such as current trends and interests of cognitive neuroscience; how to conduct research; neuroethics; decision-making; schizophrenia; pain; memory and; dementia. Students are expected to develop a sound understanding of cognitive neuroscience's strength and limitations.

**Programme Outcomes:**

4Ai, 4Aiii, 4Ci, 4Ciii, 4Dii, 4Diii

A detailed list of the programme outcomes are found in the Programme Specification.

This is located at the archive maintained by the Academic Registry and found at:

<http://www.richmond.ac.uk/content/academic-schools/academic-registry/program-and-course-specifications.aspx>

**Learning Outcomes:**

- summarise and critique ideas and debates in the field
- conduct independent research in cognitive neuroscience
- demonstrate a clear understanding of the impact and limitations of cognitive neuroscience approaches

**Indicative Content:**

- Research tools: ePrime & EEGLab
- Decision-Making
- Neuroethics
- Schizophrenia
- Pain
- Sleep
- Short-term memory
- Hippocampal memory encoding
- Long-term memory encoding
- Developmental amnesia
- Alzheimer's detection

**Assessment:**

This course conforms to the Richmond University Standard Assessment Norms approved at Academic Council on June 28, 2012.

**Teaching Methodology:**

The course material will be covered in the following ways:

- I. Lecture presentations with the key concepts
- II. Group discussions on journal articles and important questions on the topics discussed
- III. Internet sites related to psychology
- IV. Intra-net access to lecture notes and reading material

