

**Title:**

Techniques in Cognitive Neuroscience

**Synopsis:**

For several neuroimaging techniques, students will learn about the basics behind the neurophysiological underpinnings and current applications of the technique in psychological research. Students will gain an understanding of the advantages (i.e. how each technique has contributed to our knowledge of brain-behaviour relationships) and limitations of each technique.

**Lectures schedule:**

1. Neuropsychology: Case Studies - 4.10.12
2. Magnetic Resonance Imaging (MRI): Structural - 11.10.12
3. Magnetic Resonance Imaging: Functional (fMRI) – 18.10.12
4. Positron Emission Tomography (PET) - 25.10.12
5. Electroencephalography (EEG/ERP) – 01.11.12
6. Transcranial Magnetic Stimulation (TMS) – 08.11.12
7. Multimodal Neuroimaging (e.g. EEG-fMRI) – 15.11.12
8. Exam – 06.12.11

**Assessment:**

1. (Pseudo) Research Proposal (50%): Student will be required to write a 2500 word essay on a (combination of) technique(s) of their choice. This should demonstrate (a) their understanding of the neurophysiological underpinnings of the technique(s); (b) an awareness of the applications of the technique in psychology; and (c) the advantages and limitations of the technique(s).
2. Examination (50%): Students will sit a 1hr written examination, in which they will answer multiple-choice and open-ended questions testing an understanding of the application of selected techniques covered in the lectures.