

C8304 Cognition

20 credits

Class leader: Dr Kumiko Fukumura (GH Room 6.69)

Aims:

The rationale for this course is to introduce students to some of the core topics in perception, language, thinking, learning and memory, and to explore the key theoretical debates within these areas. This class is aligned to the British Psychological Society's QE syllabus and covers key areas within cognition required for gaining Graduate Basis for Registration. It builds on material introduced in the second year Psychology class on *Cognition and Neuropsychology* and in particular it develops the areas of thinking, language and memory as well as examining the relationships between subjective sensation and cognitive evaluation.

The aims are:

- i. to provide students with a broad based knowledge and understanding of perception, language, thinking, learning and memory.
- ii. to provide an historical overview of major theories and concepts.
- iii. to introduce students to laboratory techniques and to provide them with the basic practical skills needed to assess human cognition.
- iv. to develop skills relating to the systematic acquisition of factual information and data.
- v. to develop the ability to solve problems and to analyse, interpret, and discuss factual information and data critically.

The class will develop critical thinking skills through the exposition of debates in the formal staff led sessions and through the guided readings of key chapters and papers. The practical element of the class is designed to help students develop skills in designing, running, analysing and reporting experiments. These tasks are aimed at promoting transferable skills such as discussing and formulating arguments, summarizing, and presenting materials.

Content:

Thinking. This section will discuss three broad topics: a) Problem Solving, including both Gestalt and Information Processing approaches; b) Deductive reasoning, focussing specifically on conditional reasoning and a variety of theories of deduction arising from research on conditional reasoning tasks; and c) judgement and decision making, including the 'heuristics and biases' approach to judgement.

Memory and Learning. Models of episodic and working memory will be described and evaluated and placed within the broader context of executive functioning. A comparison between different models of recollective experience will be made. The concepts of implicit and explicit learning will also be introduced and along with basic theories of skill learning.

Face and object perception. This section will evaluate theories of object perception and consider how we perceive and recognise faces. There will be a specific focus on how perceptions can be biased in eyewitness testimonies.

Perception and Action. The perception of time will be described and discussed. Models which link perceptions and actions will then be outlined and evaluated.

Language. This section will discuss three broad topics: a) Word production, contrasting influential word production models; b) Sentence production, exploring important factors that underlie the choice of different sentence structures; c) Sentence comprehension, evaluating major theories of sentence processing.

Structure:

A total of 28 interactive lecture sessions will be delivered by a teaching team of tutors. Sessions will include lectures, small group discussions, tasks designed to illustrate key points, demonstrations and practical examples. There will be one compulsory practical session where students will participate in an experiment. Students will then be required to carry out statistical analyses on the group's data and write a report. Students will also be required to work in groups on a topic and to create a podcast which summarises their findings.

Learning outcomes:*Cognitive skills*

- i. to develop the ability to critically evaluate theories and models in cognitive psychology.
- ii. to develop the ability to evaluate and discuss scientific papers in the areas of perception, language, thinking, learning and memory.
- iii. to develop the ability to critically evaluate methods and paradigms commonly found in the cognition literature.
- iv. to develop the ability to solve problems and to analyse, interpret, and discuss factual information and data critically.

Knowledge and understanding

- v. to provide the student with a broad-based knowledge and understanding of perception, language, thinking, learning and memory.
- vi. to provide students with an historical perspective of major theories and concepts within this area.

Practical skills

- vii. to improve practical skills associated with carrying out experiments.
- viii. to develop communication and teamwork skills through peer collaboration group work.
- ix. to develop skills relating to the systematic acquisition of factual information and data.
- x. to improve transferable skills such as discussing and formulating arguments, summarizing, and presenting material.
- xi. to practice report writing skills.

Teaching methods:

Lectures and practicals.

Contact hours:

Three hours per week during semester 2.

Assessment:

Two hour written examination (70%)

One practical report (30%).

The University and the School require students to attend lectures, seminars, tutorials, and practicals regularly and to perform satisfactorily in the associated work. Students who fail to attend regularly and submitted the coursework by two weeks following the deadline may be excluded from the degree examination in C8304 Cognition.

Employability:

C8304 provides students with a number of skills which are valued outside of the Undergraduate context. These include: the ability to understand and evaluate research findings in broad theoretical contexts; the ability to present and interpret numerical information in a clear and concise manner; the ability to write clearly, concisely and logically; the ability to work in a group context.

Feedback:

Students will receive both generic feedback on class performance and detailed, written feedback on practical reports. Generic feedback will also be provided upon completion of pod-cast group work. Feedback, however, comes in many forms and at various points: when a discussion post is

responded to, this is feedback; when you email a member of staff and they reply, this is feedback; a response to a question before, after, or during a lecture, is feedback! If any feedback is unclear, given the opportunity staff will be happy to clarify it.

Place in course:

This is a level 3 Psychology class. It will build on material from the level 2 class **C8201 Cognition & Neuropsychology** and provide a basis for level 4 classes in cognition, human performance and psychology of language.

Prerequisite classes:

Pass in **C8201 Cognition & Neuropsychology**.

Reading:

These are some of the recommended text books. Additional reading materials will be specified in each lecture.

General

Braisby, N., & Gellatly, A. (2012). *Cognitive Psychology*, Oxford University Press.

Eysenck, M., & Keane, M. (2010). *Cognitive Psychology: A Student's Handbook*, Taylor & Francis. A new edition (2015) due to be published around 20th Feb

Topic-specific text books

Bruce V., Green, P.R., & Georgeson, M.A. (2003). *Visual Perception: Physiology, Psychology and Ecology*. Psychology Press.

Harley, T.A. (2008). *The psychology of language: from data to theory* (3rd edition). Psychology Press: New York. (4th edition coming soon)

Harley, T.A. (2010). *Talking the Talk: Language, Psychology and Science*. Psychology Press. (ebook available).

Hole, G., & Bourne, V. (2010). *Face Processing: Psychological, Neuropsychological and Applied Perspectives*. Oxford: O.U.P.

Roth, I., Frisby, J.P., & Bruce V. (1995). *Perception and Representation: Current Issues*. Oxford University Press.

Traxler, M. (2012). *Introduction to Psycholinguistics: Understanding Language Science*. Wiley-Blackwell: London. (ebook available).