PSYC3210 – Perceptual Systems

DRAFT ONLY

Unit of Study Code: PSYC3210

Coordinator: Dr John Predebon
Office: Room 508 Griffith Taylor
Phone: 9351 3321
E-mail: johnp@psych.usyd.edu.au

Other Teaching Staff: Dr Colin Clifford
Office: Room 506 Griffith-Taylor Building
Phone: 9351 6810
E-mail: colinc@psych.usyd.edu.au

Format of Unit: 2 x 1 hour lectures/week x 13 weeks
1 x 1 hour tutorial/week x 12 weeks
Tutorial sizes: maximum of 20 students per group

Credit Point Value: 4 Credit Points

Qualifying: 8 credit points of Second Year Psychology including PSYC 2111 and
PSYC 2112

Assessment: Classwork:
30% (To be announced; either tutorial class quiz or brief lab report).
28 October to 31 October (Week 13)

Examination:
70%: Multiple choice questions and short answers

Unit of study general description:

The unit covers at an advanced level selected topics in perception from the psychophysical,
physiological and neuropsychological perspectives, and from both the applied and theoretical
levels of analyses. Students are expected to gain an understanding of some of the major theoretical issues motivating current
perceptual research, to appreciate the significance of basic perceptual research for understanding normal
perceptual functioning, and to be able to evaluate the empirical and conceptual worth of research
contributions.

Teaching outcomes:

- Awareness and understanding of the conceptual issues and problems associated with inferring the
  mechanisms underlying perceptual abilities on the basis of links between neurophysiological and
  psychophysical data.
- Ability to describe, explain and discuss the major theoretical and experimental studies on selected
  issues in perception.
- Ability to describe and critically evaluate the neuropsychological and behavioural studies relevant to
  our understanding of the relationship between visually guided actions and perception.
- Critical understanding of the major theoretical approaches to perception.
- Ability to describe and evaluate the relationship between perception and the physical stimulus.
- Ability to describe and evaluate the neurophysiological basis of visual perception.
Evidence of learning:

Assessment will take the form of either a quiz test in Week 13 covering work completed in tutorials or a laboratory report based on one of the tutorial experiments. At the end of semester, a written examination will assess knowledge of the entire course including tutorial work, lecture material, recommended reading and all the stated teaching outcomes.

Lecture Program:
The course will cover some of the following topics. The final syllabus will be available in mid 2002.

1. The relationship between perception and action: The functions of visual perception; behavioural and neuropsychological studies; the concept of dissociations; critique of current evidence and theory

2. Recent developments in space perception: Stereopsis, stereoscopic depth constancy, the inverse square-law; experimental evidence; Direct versus indirect theories of space perception; ecological versus the information-processing approaches

3. Visual search and spatial attention: Treisman’s feature integration theory; visual conjunction search; the spotlight metaphor of visual attention; object- versus space-based attention.

4. Functions of the dorsal and ventral visual processing streams including object constancy, mental rotation. Disorders of the dorsal stream including simultanagnosia, orientation agnosia.

5. Motion and colour processing; interactions between different perceptual dimensions

6. Vestibular perception; how vestibular stimulation affects visual perception

7. Time perception: theories and evidence

8. Attentional effects on visual processing; psychophysical and neurophysiological studies


Tutorial Program:
The program consists of a mixture of laboratory based tutorials in which students conduct and participate group projects, discussion tutorials on the results of class experiments and on selected lecture topics, and self-directed (interactive) computer-based tutorials.

TEXT

At this stage, there is no set text but. Readings are based on journal articles and chapters from selected books.