PSYC3210 – Perceptual Systems

Unit of Study Code: PSYC3210

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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: Class work:
Class Report (5%)
Week 5, Monday 5 April

Practical Class Participation and report (10%)
Week 6, tutorial time

Tutorial Quiz Test (20%)
Week 13, 7 June to 11 June

Examination: 65%: 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.

University of Sydney - Administrative Guidelines & Syllabus, Senior Psychology, 2004 page 28
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 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.
- Knowledge of the structural and functional properties of perceptual modalities with emphasis on vision.
- Understanding of the processes by which combined input from various senses (vision, touch, proprioception, vestibular sense) contribute to normal perceptual experience and action.
- Understanding of the basic processing principles common to various perceptual modalities (relative plasticity of the neural substrate; optimization in processing of information; attunement of the perceptual apparatus to the ecological niche of a particular organism).

Evidence of learning:

Assessment of work completed in tutorials will take the form of a Class Report (due in Week 5) and Practical Class Participation (Week 6), and a Quiz Test (Week 13). At the end of semester, an examination (short answer and multiple choice) 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 the following topics:

Tatjana Seizova-Cajic
- Touch
- Proprioception
- Vestibular system
- Intersensory interactions
- Perceptual plasticity
- Perceptual disorders

John Predebon
- Perception and action: The functions of visual perception; the concept of dissociations; critique of current evidence and theory
- Binocular vision: Stereopsis; Stereoscopic depth constancy, the inverse square-law; evidence;
- Direct vs indirect theories of space perception; ecological versus information-processing approaches
- Constancies (eg., brightness, size); psychophysics and physiology
- Perceptual covariations; examples from motion and distance domains
- Attentional effects on visual processing; psychophysical and neurophysiological studies
- Visual attention and eye movements; object- versus spaced-based approaches
- Time perception: theories and evidence

Colin Clifford
- Motion processing

University of Sydney - Administrative Guidelines & Syllabus, Senior Psychology, 2004 page 29
Tutorial Program:

The program consists of a mixture of laboratory-based tutorials in which students participate in class demonstrations and experiments, discussion tutorials on the results of class experiments and on selected lecture topics, and self-directed (interactive) computer-based tutorials. **NOTE: the sequencing of tutorial topics is subject to change.**

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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>8/3/04</td>
<td>No tutorials</td>
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<tr>
<td>2</td>
<td>15/3/04</td>
<td>Tactile Perception</td>
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<td>3</td>
<td>22/3/04</td>
<td>Proprioception</td>
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<tr>
<td>4</td>
<td>29/3/04</td>
<td>Signal detection theory – introduction and demonstration</td>
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<td>5</td>
<td>5/4/04</td>
<td>Signal detection theory – data analysis and discussion</td>
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<td>12/4/04</td>
<td>Intra-semester break</td>
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<td>6</td>
<td>19/4/04</td>
<td>Perceptual disorders</td>
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<td>7</td>
<td>26/4/04</td>
<td>Visual search</td>
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<td>8</td>
<td>3/5/04</td>
<td>Binocular vision 1</td>
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<td>9</td>
<td>10/5/04</td>
<td>Binocular vision 2</td>
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<td>10</td>
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<td>Demonstrations and discussion</td>
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<td>11</td>
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<td>Visual performance</td>
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<td>12</td>
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<td>Motion processing</td>
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<td>13</td>
<td>7/6/04</td>
<td>Assessment</td>
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**TEXT**
There is no set text. Readings are based on journal articles and chapters from selected books.