PSYC3210 – Perceptual Systems

Unit of Study Code: PSYC3210

Coordinator: Dr John Predebon
Office: Room 506 Griffith Taylor
Phone: 9351 3321
E-mail: john@psych.usyd.edu.au

Other Teaching Staff: Dr Rick van der Zwan
Office: Room 506 Griffith Taylor
Phone: 9351 6810
E-mail: rickv@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

Credit Point Value: 4 Credit Points

Qualifying: 12 credit points of Second Year Psychology including PSYC 2111
and PSYC 2112

Assessment:
Classwork:
30% (Tutorial test)
29 May – 1 June (week 13)

Examination:
70% short answers

Evaluation of teaching and learning:
Date: week 12
Type: Questionnaire

Unit of study general description:
The unit covers at an advanced level selected topics in perception from both the psychophysical and
neuroscientific perspectives. 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 critically evaluate the
empirical and conceptual worth of research contributions.

Teaching outcomes:
1. 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.
2. Ability to describe, explain and discuss the major theoretical and experimental studies on
   selected issues in perception.
3. Ability to describe and critically evaluate the neuropsychological and behavioural studies
   relevant to our understanding of the relationship between visually guided actions and perception.
4. Critical understanding of the major theoretical approaches to perception.
5. Ability to describe and evaluate the relationship between perception and the physical stimulus.
6. Ability to describe and evaluate the neurophysiological basis of visual perception.

Evidence of learning:
Assessment will take the form of a quiz test in Week 13 covering work completed in tutorials. 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.
SYLLABUS

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

2. Recent developments in space perception: perceptual constancies; stereoscopic depth constancy, the inverse square-law; experimental evidence;

3. Direct versus indirect theories of perception; ecological (Gibson) versus the information-processing (Rock) approaches

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

5. Attentional modulation of visual processing; examples from perceptual grouping, apparent motion capture.

6. Short-term perceptual changes: the effect of practice (illusion decrement)


9. Neural processing, binocular rivalry, and consciousness.

10. Symmetry Perception.

11. Perception, perceptual discriminations, and perceptual learning.


13. Comparative psychology and perception.

TIMETABLE

<table>
<thead>
<tr>
<th>WEEK</th>
<th>LECTURES</th>
<th>TUTORIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Perception and action. 1</td>
<td>No tutorial</td>
</tr>
<tr>
<td>2</td>
<td>Perception and action. 2</td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>Recent developments in space perception.1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Recent developments in space perception:2</td>
<td>Psychophysics</td>
</tr>
<tr>
<td>4</td>
<td>Spatial attention</td>
<td>Experiment</td>
</tr>
<tr>
<td>5</td>
<td>Attentional modulation of visual processing</td>
<td>Discussion of results of Week 3 experiment</td>
</tr>
<tr>
<td>6</td>
<td>Short-term perceptual changes (eg., aftereffects, illusion decrement)</td>
<td>Demonstrations</td>
</tr>
<tr>
<td>7</td>
<td>Time perception</td>
<td>Non-luminance Processing</td>
</tr>
<tr>
<td>8</td>
<td>Non-luminance Processing</td>
<td>Consciousness and Perception</td>
</tr>
<tr>
<td>9</td>
<td>Neural Processing</td>
<td>Discrimination Experiment</td>
</tr>
<tr>
<td>10</td>
<td>Symmetry Perception</td>
<td>Discussion of Experiment</td>
</tr>
<tr>
<td>11</td>
<td>Perceptual Discriminations</td>
<td>Discussion of papers</td>
</tr>
<tr>
<td>12</td>
<td>Development and Functioning</td>
<td>Discussion of papers</td>
</tr>
<tr>
<td>13</td>
<td>Comparative Psychology</td>
<td>Tutorial test</td>
</tr>
</tbody>
</table>

TEXT

There is no set text. Readings are based on journal articles and chapters from selected books.