PSYC 3205 – Cognitive Psychology

Unit of Study Code: PSYC3205

Coordinator: Associate Professor Cyril R Latimer
Office: Room 509 Griffith-Taylor Building
Phone: 9351 2481
E-mail: cyril@psych.usyd.edu.au

Other Teaching Staff: Dr Ros Markham
Office: Room 638 Mungo MacCallum
Phone: 9351 2873
E-mail: rosm@psych.usyd.edu.au

Guest Lecturers: Mr T. Bertoia, Dr A. Cartwright, Dr M. Charles,
Dr C. Clifford, Ms S. Ellwood, Mr J. Palethorpe, Ms G. Sartore, Dr
L. Williams

Format of Unit: 2 x 1 hour lectures/week x 13 weeks
1 x 1 hour tutorial/week x 11 weeks
Tutorial sizes: maximum of 20 students per group

Credit Point Value: 4 Credit Points

Qualifying: 12 credit points of Intermediate Psychology including PSYC 2112
and PSYC 2113 (or PSYCH 2001 and 2002)

Assessment: Classwork:
Mid Semester Computer Quiz on Tutorials 1-5
3rd Sept – 7th Sept (Week 7) (15%)
End Semester Computer Quiz on Tutorials 6-9
15th Oct – 19th Oct (Week 12) (15%)

Examination:
Short-answer questions (70%)

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

Unit of study general description:

This course deals with current research in memory, visual attention and awareness, pattern and face
recognition and, artificial neural networks. Research on eye movements in schizophrenia, Post-
traumatic stress disorder (PTSD), Social Phobia and Attentional deficiency and hyperactivity disorder
(ADHD) is covered. Students participate in experiments as subjects and experimenters and are
encouraged to think and act as experimenters in order to prepare them for empirical projects in a fourth
year. In some tutorial sessions students are set problems in the derivation of hypotheses from theory
and the design of experiments to test hypotheses.

Teaching outcomes:

(1) Ability to describe, discuss and think critically about theoretical and experimental work on
pattern and face recognition, differentiation, eye-movement indices of cognition and cognitive
disorders, visual attention, symmetry detection, working, implicit/explicit, autobiographical
and prospective memory, theories of recognition and recall, memory and context.

(2) Possession of an understanding of major historical, empirical and conceptual issues that have
been the focus of contemporary research in cognitive psychology.

(3) Appreciation of the mechanics, role, influence, strengths and weaknesses of rule-based and
connectionist modeling of the cognitive processes.
(4) Capacity for critical appraisal of theory construction, experimental method and statistical
inference as they are applied in research on cognitive processes.
(5) Familiarity with the means to assess the truth of premises and the validity of arguments in the
context of cognitive theory and experimental work.

Evidence of learning:

Assessment will take the form of computer-based quizzes in Week 7 (covering work completed in
tutorials during Weeks 2 - 6) and in Week 12 (covering work completed in tutorials during Weeks 8-11).
At the end of semester, a short-answer examination will assess knowledge of the entire course including
tutorial work, lecture material, recommended reading and all the stated teaching outcomes.

SYLLABUS

Pattern differentiation. Eye movement indices of character and form perception. Visual attention and
awareness. Symmetry detection. Face recognition. Connectionist modeling of cognition Measures of
response in the study of cognition.

Working memory. Implicit and explicit memory. Theories of recognition and recall. Context and
memory. Autobiographical memory. Prospective memory.

Eye movements in Schizophrenia, Post-traumatic stress disorder (PTSD), Social phobia and Attentional
deficiency and hyperactivity disorder (ADHD).

TIMETABLE

<table>
<thead>
<tr>
<th>WEEK</th>
<th>LECTURES</th>
<th>TUTORIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pattern differentiation; Eye movement indices of character recognition</td>
<td>No tutorials</td>
</tr>
<tr>
<td>2</td>
<td>Visual attention 1 &amp; 2</td>
<td>Differentiating patterns</td>
</tr>
<tr>
<td>3</td>
<td>Visual awareness 1 &amp; 2</td>
<td>Demonstration of eye movement apparatus</td>
</tr>
<tr>
<td>4</td>
<td>Face recognition 1 &amp; 2</td>
<td>Experiment on visual attention</td>
</tr>
<tr>
<td>5</td>
<td>Face recognition 3&amp; 4</td>
<td>Construction of artificial neural networks with MacBrain 1</td>
</tr>
<tr>
<td>6</td>
<td>Artificial neural networks Measures of response in the study of visual attention;</td>
<td>Construction of artificial neural networks with MacBrain 2</td>
</tr>
<tr>
<td>7</td>
<td>Symmetry detection 1 &amp; 2</td>
<td>Computer Quiz on Tutorials held during Weeks 2 - 6</td>
</tr>
<tr>
<td>8</td>
<td>Eye Movements and Schizophrenia; Eye movements and post-traumatic stress disorder (PTSD)</td>
<td>Experiment on symmetry detection</td>
</tr>
<tr>
<td>9</td>
<td>Eye Movements and social phobia; Eye Movements and attentional deficiency and hyperactivity disorder (ADHD)</td>
<td>Videotape on emotions followed by discussion</td>
</tr>
<tr>
<td>10</td>
<td>Working memory; Implicit and explicit memory</td>
<td>Experiment on working memory</td>
</tr>
<tr>
<td>11</td>
<td>The Visuospatial scratch pad and articulatory loop; Theories of recognition and recall</td>
<td>Experiment on face recognition: Face recognition as a function of context</td>
</tr>
<tr>
<td>12</td>
<td>Context and memory; Autobiographical and prospective memory</td>
<td>Computer quiz on tutorials during Weeks 8-11</td>
</tr>
<tr>
<td>13</td>
<td>Memory for the source of information; Theoretical issues in cognitive psychology</td>
<td>No tutorials</td>
</tr>
</tbody>
</table>
REFERENCES


