# PSYC 3015
## Intelligence and Human Reasoning

**Unit of Study Code:** PSYC3015  

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**Format of Unit:**  
2 x 1 hour lectures/week x 13 weeks  
1 x 2 hour tutorial/week x 10 weeks

**Credit Point Value:** 6 Credit Points

**Prerequisites:**  
Intermediate Psychology units including PSYC(2013 or 2113) and PSYC(2014 or 2114)

**Assessment:**  
**Classwork:**  
Top 3 out of 4 Tutorial quizzes, worth 5% each of the total marks for this unit of study – total of 15% (see tutorial outline).

In addition, as part of the course requirement, students will conduct an experiment and write a 2000 word report/essay (35%). The report is due week 10, Monday May 14th at 4p.m.

**Examination:**  
A 2 hours examination, consisting of short-answer and/or multiple choice questions, is worth 50% of the total marks for this unit of study.

**Evaluation of teaching and learning:**  
Date: Week 13 of the semester  
Type: Questionnaire

**Unit of study general description:**

The aim of this unit of study is to provide an overview of different perspective on the construct of intelligence and to build a critical platform from which both empirical evidence and theoretical propositions can be evaluated. Two broad methodological approaches will be considered, compared, and contrasted. (a) The individual differences approach which serves as the basis of much of contemporary psychological assessment in clinical, educational and organizational settings and (b) the experimental approach to cognitive abilities which use experimental methods to study the information-processing components that underlie intellectual performance (e.g., working-memory theories).
Teaching outcomes:

At the end of this course, students will be able to:

1) Evaluate basic features of contemporary theories of intelligence, cognitive and metacognitive abilities,
2) Understand basic principles of assessment of intelligence and the interpretation of test scores,
3) Assess the main findings in studies examining the cognitive and metacognitive correlates of intelligence,
4) Understand the main findings in studies examining information-processing theories of intelligence,
5) Understand the main findings in studies linking personality and new constructs (i.e., metacognition and emotional intelligence),
6) Critically evaluate contemporary research in human cognitive abilities and intelligence.

Evidence of learning:

In accordance with the assessment procedures for Psychology 3, meritorious performance in this unit of study will involve:

1) Demonstrating a sound understanding of the conceptual aspects of theories about the structure of cognitive abilities and related constructs, and
2) Reading the recommended references in order to further this understanding, and
3) Demonstrating an ability to question and critically evaluate the various theories and findings in the area of cognitive abilities by applying the knowledge acquired.

Satisfactory performance in this unit will involve:

1) A broad understanding of each of the theories and approaches covered, and
2) Some reading of the recommended references in order to further this understanding.

To assess this evidence, there will be 4 tutorial quizzes (based on the set readings for tutorials) in weeks 4, 6, 10, and 13, and a short-answer exam, of 2 hrs duration, covering the teaching outcomes listed above. The exam will be worth 50% and the tutorial quizzes 15% of the total marks for this unit. The report / essay, due 14 May (week 10) is worth 35% of the total marks for this unit.

TEXT

There is no “set” text for this unit of study. Specific readings will be provided in lectures.

The following sources, listed in order of importance, are recommended reading for a more “in-depth” understanding of the subject matter of this unit:


### SYLLABUS*

<table>
<thead>
<tr>
<th>W</th>
<th>L</th>
<th>Lecture Topic</th>
<th>Lecturer</th>
<th>Tutorial Topic</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Individual Differences theories of Intelligence: Overview &amp; Methods</td>
<td>DB</td>
<td>NO tutorials</td>
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<td>2</td>
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<td>Extended Gf-Gc theory</td>
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<td>2</td>
<td>3</td>
<td>The two disciplines problem: Why cognitive process theories are important to ID theories 2</td>
<td>DB</td>
<td>Operationalising the Gf-Gc theory: Predictive validity in real life (Schmidt &amp; Hunter, 1998)</td>
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<tr>
<td>3</td>
<td>5</td>
<td>Baddeley's multicompetent WM model</td>
<td>DB</td>
<td>library research</td>
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<td>4</td>
<td>7</td>
<td>What makes a task difficult: Mental models, Deduction rules, Relational Complexity?</td>
<td>DB</td>
<td>Quiz 1: Mackintosh &amp; Bennett: Fractionation of WM along the lines of Gf-Gc-Gv</td>
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<td>4</td>
<td>8</td>
<td>WM-Gf premise: Introduction and overview I.</td>
<td>DB</td>
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<td>5</td>
<td>9</td>
<td>The WM-Gf premise: Introduction and overview II.</td>
<td>DB</td>
<td>Roberts: What is the status of unified theory of cognition when there are individual differences</td>
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<td>10</td>
<td>The WM-Gf premise: Introduction and overview III</td>
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<td>6</td>
<td>11</td>
<td>A theoretical account of the processing in the Raven Progressive Matrices Test I</td>
<td>DB</td>
<td>Quiz 2: Schunn and Reder</td>
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<td>7</td>
<td>13</td>
<td>Biological basis of intelligence</td>
<td>GP</td>
<td>Complex Simulations &amp; Intelligence</td>
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<tr>
<td>8</td>
<td>14</td>
<td>Assessment of Intelligence</td>
<td>GP</td>
<td>ANZAC day holiday (Wednesday 25 April, 2007) No Lecture</td>
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<tr>
<td>8</td>
<td>15</td>
<td>Assessment – WAIS-III</td>
<td>GP</td>
<td>Administration of WAIS-III, video, hands-on experience, discussion of test administration issues</td>
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<tr>
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<td>16</td>
<td>Assessment – Woodcock-Johnson-III</td>
<td>GP</td>
<td>library research</td>
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<tr>
<td>9</td>
<td>17</td>
<td>Creative intelligence</td>
<td>GP</td>
<td>Quiz 3/Assignment due to Dantih's olfactory intelligence</td>
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<tr>
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<td>18</td>
<td>Emotional Intelligence I</td>
<td>GP</td>
<td>practical admin and scoring of the WJIII</td>
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<td>10</td>
<td>19</td>
<td>Emotional Intelligence II</td>
<td>GP</td>
<td>Metacognition</td>
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<td>Metacognition 1</td>
<td>SK</td>
<td>Quiz 4</td>
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<td>11</td>
<td>21</td>
<td>Metacognition 2</td>
<td>SK</td>
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<td>12</td>
<td>22</td>
<td>Gender Differences</td>
<td>SK</td>
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<td>24</td>
<td>Exceptional Abilities: Giftedness, Talent &amp; Genius</td>
<td>SK</td>
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<td>13</td>
<td>25</td>
<td>Intelligence and health</td>
<td>SK</td>
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* Specific readings will be provided in the lectures; There may be slight changes to this outline based on how the course progresses and test availability