Dr Karen Spencer

The aim of this course is to explore some of the many physiological and neural systems that modulate patterns of behaviour in a range of species, including humans. It will highlight the importance of integrating information from psychology and neuroscience disciplines in order to further our understanding of how and why animals and humans behave the way they do in different situations. The course will deal with examples of mechanisms across different levels of complexity (from genes to physiology). The course will include lectures and student presentations/journal club discussions based around current research articles in the field and a practical session with hands on experience of a physiological technique.

The academic reason for the introduction of this module is to present a course that will bridge the gap between current Psychology and Neuroscience disciplines within the School. It will provide integrative and comparative information on the neural and physiological mechanisms that underlie complex behaviours. This is a large and active field and adding a course to cover this material will be a valuable addition to the current 4000 level teaching.

The module will consist of weekly 2 hour sessions that will be composed of lecture material and student led seminar teaching based around presenting articles and a journal club like discussion. There will also be one practical session (4h).

Course structure:
Week 1: General introduction to integrative research themes (e.g. behaviour, hormones, gene expression, neuroendocrinology).
Week 2: Exploration of current methodologies used, evaluation of strengths and weaknesses.
Week 3: Individual behaviours: risk-taking, exploration
Week 4: Social behaviour I: group interactions/competition
Week 5: Practical: measurement of hormone concentrations in student population relating to a specific behaviour (e.g. oxytocin levels and trust, cortisol and risk-taking). EIA kits used in teaching lab [deadline for popular science article]
Week 6: Social behaviour II: choosing a mate
Week 7: Reproductive behaviour: starting a family
Week 8: Parental care I: modulators of maternal and paternal behaviour [deadline for Technical report submission]
Week 9: Parental care II: interactions between parents/family conflict and cooperation
Week 10: Development of behaviours: importance of early life conditions in shaping future behaviours.
Week 11: Overview session
### Assessment: 100% CA

<table>
<thead>
<tr>
<th>Assessment element</th>
<th>Detail (word length, etc)</th>
<th>Percentage of module grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popular science article (summary of one of the papers they have presented in class)</td>
<td>1x500 words [students will be expected to describe/evaluate their chosen paper briefly in terms of: 1) importance of topic, 2) methods used, 3) results found and their significance. This will be written in a lay style.]</td>
<td>20</td>
</tr>
<tr>
<td>Essay (Choice from 5 questions based on the different themes within the course)</td>
<td>1x1500 words [requiring an evaluation of the evidence to date and suggestions for future research directions. Students should read outside the papers provided to obtain a good mark]</td>
<td>40</td>
</tr>
<tr>
<td>Technical report (Lab write up)</td>
<td>1x2500 words [practical session written up in the form of a short paper: Intro/methods/results/discussion]</td>
<td>40</td>
</tr>
</tbody>
</table>