COURSE CONTENT

Date : 11th December 2015
Academic Year : Semester 1, AY2016/2017
Study Year (if applicable) : 3, 4
Course Code & Title : HP4021 Laboratory in Human and Animal Neuroscience
Academic Unit : 4 AU
Pre-requisites : HP1000 Introduction to Psychology, HP1100 Fundamentals of Social Science Research, HP2200 Biological Psychology

Course Description:
HP4021 Laboratory in Human and Animal Neuroscience
[Lab: 39 hours; Tutorials: 12 hours; Pre-requisites: HP 1000 Introduction to Psychology, HP1100 Fundamentals of Social Science Research, HP2200 Biological Psychology; Academic Unit: 4]

Learning Objective
Learning objectives (LOs) of the course are:
1. Introduce students to the field of Human and Animal Neuroscience.
2. Familiarize students with a Neuroscience lab facility
3. Improve students’ research skills.

Content
The main purpose of this Laboratory course is for students to acquire knowledge and skills in the field of Human and Animal Neuroscience. A secondary aim of the course is for students to develop their critical appraisal of how Human and Animal Neuroscience can be applied to study the mechanisms behind typical and atypical development. The course focuses on practical application with weekly opportunities to apply some of the techniques introduced in class. Students will collect and analyze data, write up a research paper, and present the results in class.

Course Materials
No textbooks will be required. Students will be introduced a series of reading that address the basic steps involved in the Human and Animal Neuroscience approach and substantive research reports that employed this approach.
Course Outline

<table>
<thead>
<tr>
<th>S/N</th>
<th>Topic &lt;Empirical Project Assignment - EPA&gt;</th>
<th>Lab Hours</th>
<th>Tutorial Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intro - Current Paradigms in Neuroscience</td>
<td>3</td>
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<td>2</td>
<td>The ten fundamental questions in Neuroscience &lt;EPA1 - Group Discussion, 5 Slides preparation &gt;</td>
<td>3</td>
<td>1</td>
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<td>3</td>
<td>Ethical issues in human and animal Neuroscience &lt;EPA2 - presentation - “Peer review”&gt;</td>
<td>3</td>
<td>1</td>
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<td>4</td>
<td>Multilevel approach to hypothesis testing and results interpretation in Neuroscience &lt;Preparation for Group Initial Report; feedback session&gt;</td>
<td>3</td>
<td>1</td>
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<td>5</td>
<td>Group Initial Report</td>
<td>3</td>
<td>1</td>
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<td>6</td>
<td>Using Near InfraRed Spectroscopy in Humans &lt;EPA3 - Writing the title, abstract&gt;</td>
<td>3</td>
<td>1</td>
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<td>7</td>
<td>Measuring Vocalizations in Human and Non Human Primates &lt;EPA4 - Aim &amp; Hypothesis&gt;</td>
<td>3</td>
<td>1</td>
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<td>8</td>
<td>Measuring Physiological Parameters - ECG &lt;EPA5 - Methods: Sample size, Sampling procedures, Procedures, Analytic Plan&gt;</td>
<td>3</td>
<td>1</td>
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<td>9</td>
<td>Human Studies – Longitudinal &amp; Neuroimaging &lt;EPA6 – Expected Results&gt;</td>
<td>3</td>
<td>1</td>
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<td>10</td>
<td>Using ElectroEncephaloGraphy in Humans &lt;EPA7 – Impact &amp; Significance&gt;</td>
<td>3</td>
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<td>11</td>
<td>The Neuroscience of Love - Interpreting G X E Data &lt;EPA8 - Slides Preparation&gt;</td>
<td>3</td>
<td>1</td>
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<td>12</td>
<td>Individual presentations</td>
<td>3</td>
<td>1</td>
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<tr>
<td>13</td>
<td>Individual presentations</td>
<td>3</td>
<td>1</td>
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Learning Outcomes

Students will be able to:
1) Conduct experiment in the field of human/animal neuroscience
2) Compare and discriminate between different experimental techniques
3) Interpret the results of a scientific paper
4) Communicate competently to an academic or professional audience via both written and oral presentation

Student Assessment

Students will be assessed based on continuous assessment (100%) with the following components:

1) **Group Initial report (25%)**: Students are supposed to elaborate a proposed research project, and prepare an ethical application that will be discussed and peer-reviewed in class [Linked to Los 1, 2 & 4]

2) **Empirical Project Assignments (25%)**: Part of each lecture will be spent to work on an empirical project. During each empirical assessment the student will work on planning an experiment, write a paper and prepare the slides for a presentation. *Initiative, participation and creativity* shown during the assignment will be assessed. [Linked to LOs 2 & 3]

3) **Individual Project Reports (25%) and individual presentation (25%)**: Each student will complete an empirical project. Each student will be required to present his/her work with a formal presentation during lab session 12 and 13. The reports and the slides must be submitted before midnight of Monday of Week12. Late submission will be penalized (-2 points). the Report and the
rubric will be scored using the Rubrics attached here after the reference section. [Linked to LOs 1-4]
Recommended papers list

Students are expected to complete the reading BEFORE class. The readings will be discussed during class. Also, the readings provide background knowledge for the methodology that students will be learning. It will be difficult to catch up if the student has not done the readings before class.

Focus on (= Mandatory Reading): Abstract, Introduction, Results presented in Figure 5 and Figure 7.

Focus on (= Mandatory Reading): ALL THE PAPER (it is such a pleasure to read it).

Focus on (= Mandatory Reading): ALL THE PAPER

Focus on (= Mandatory Reading): Abstract, Intro, Methods, and Discussions

Students are not requested to fully understand the methodological parts. Students are requested to be able to answer to this question: What is the main message of this article?

Focus on (= Mandatory Reading): ALL THE PAPER (it is such a pleasure to read it).
Scientific Report Template – Replace With Your Title
Words count (total max 1500, references not included)
See this link for further info:
http://www.scidev.net/global/publishing/practical-guide/how-do-i-write-a-scientific-paper-.html

Author: Name, Surname
e-mail:

Abstract
Max 150 words.

Keywords
Max 5

Introduction
Max 350 words

Aim & Hypothesis
Max 150 words

Methods
Max 500 words

Expected Results
Max 500 words

Significance & Impact
Max 500 words

Figures

Acknowledgements

References
Does not count in the total words count
Use APA style