**DEREE COLLEGE SYLLABUS FOR:**

**3/0/3**

**PS 3630 BIOLOGICAL PSYCHOLOGY**

**LEVEL 5**
**UK CREDITS: 15**

**Updated Spring 2024**

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| **PREREQUISITES:** | PS 1000 Psychology as a Natural Science - L4<br>PS 1001 Psychology as a Social Science – L4<br>PS 2236 Human Learning & Memory – L4<br>PS 2260 Introduction to Statistical Thinking - L4<br>PS 2347 Analysis of Quantitative Data - L4<br>BI 1000 Introduction to Biology I **or** BI 1017 Human Biology: Body Anatomy & Current Issues– L4 |
| **CATALOG DESCRIPTION:** | The physiological basis of behaviour, organization of the nervous system, cellular functioning, neurotransmission, neuroanatomy, research methods for studying brain behaviour. |
| **RATIONALE:** | The module introduces students to the nature and role of the biological processes that underlie thoughts, feelings, and behaviours. Students are familiarized with the brain mechanisms that bring about behaviour so that they are able to incorporate this level of analysis in their future work.<br>The module is intended for psychology majors, but it should also be of interest to students in other sciences. |
| **LEARNING OUTCOMES:** | Upon completion of this module, the student should be able to:<br>1. Identify the main divisions of the brain and nervous system and analyze their functions.<br>2. Describe the structure of neurons, how neural impulses are generated, and the role of neurotransmitters in neural transmission.<br>3. Demonstrate understanding of the research methods in Biological Psychology.<br>4. Discuss the relationship of biological mechanisms to cognition and behavior. |
| **METHOD OF TEACHING AND LEARNING:** | In line with the teaching and learning strategy of the college, the following tools are used:<br>• Classes consisted of lectures and class discussions.<br>• Office hours<br>• Use of Blackboard site<br>• Software applications |
| **ASSESSMENT:** | **Summative:** |

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| **1st assessment: Examination**<br>Multiple Choice Questions and essays | **40%** |
| **2nd assessment:**<br>**Application Assignments** | **10%** |
| **Final assessment: Examination**<br>Essay questions | **50%** |

**Formative:**

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| | The formative test aims to prepare students for the midterm and final examination. **0%**<br><br>The 1st assessment tests Learning Outcomes: 1, 2.<br>The 2nd assessment tests Learning Outcomes: 1,2,3,4.<br>The final assessment tests Learning Outcomes: 3, 4<br><br>Students are required to resit failed assessments in this module. |
| **INDICATIVE READING:** | **REQUIRED READING**:<br><br>Kalat, J. W. (2016) *Biological Psychology, International Edition 13e.* Cengage<br><br>**RECOMMENDED READING**:<br><br>Breedlove, S. M. (2013) *Biological Psychology, 7th edition*. Sinauer Associates.<br><br>Feldman Barret, L. (2018). *How emotions are made: the secret life of the brain.* Houghton Mifflin Harcourt.<br><br>Gazzaniga M. (2015). *Tales from both sides of the brain*. Harper Collins.<br><br>Gazzaniga, M.S. (2005). Forty-five years of split-brain research and still going strong. *Nature Review Neuroscience, 6,* 653-659.<br><br>Kandel, E.R. & Squire, L.R (2000). Neuroscience: Breaking the down barriers to the study of brain and mind. *Science, 290*, 1113-1120.<br><br>Kandel, E.R. (2001). The molecular biology of memory storage: a dialogue between genes and synapses. *Science, 294*, 1030-1038.<br><br>Le Doux J. (2015). *Anxious: using the brain to understand and treat fear and anxiety.* Penguin Books.<br><br>Massimini, M & Tononi, G (2018). *Sizing up consciousness.* Oxford University Press.<br><br>Pinel, J.P.J. (2013). *Biological Psychology, 8th edition*. Pearson.<br><br>Plomin, R. (2018). *Blueprint: how DNA makes us who we are*. Penguin.<br><br>Ramachandran, V.S. (2012). *The Tell-Tale Brain: Unlocking the Mystery of Human Nature.* Harper-Perennial. |

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| | Sapolsky, R.M. (2004). *Why zebras don't get ulcers*. Holt paperbacks. |
| **INDICATIVE MATERIAL** (e.g. audiovisual, digital material, etc.): | REQUIRED MATERIAL: N/A<br><br>RECOMMENDED MATERIAL:<br>Science<br>Nature<br>Trends in Neurosciences<br>Journal of Physiology<br>3D Brain application (Cold Spring Harbor laboratory) |
| **COMMUNICATION REQUIREMENTS:** | Academic use of English, both oral and written. |
| **SOFTWARE REQUIREMENTS:** | Microsoft Office: Word, Excel, PowerPoint. |
| **WWW RESOURCES:** | American Psychological Association:<br>www.apa.org<br>British Psychological Society:<br>www.bps.org<br>Dana Brain Organization:<br>www.dana.org<br>www.brainfacts.org |
| **INDICATIVE CONTENT:** | 1. Historical Background<br>2. What is Biopsychology<br>3. The Anatomy of the Nervous System<br>4. Neural Conduction and Synaptic transmission<br>5. Methods of studying the Nervous System<br>6. Learning, Memory and Amnesia<br>7. Decision making and social neuroscience<br>8. Lateralization, Language and Split Brain<br>9. Biopsychology of Emotion and Stress<br>10. Psychological Disorders |