

Course Title	Cellular Neuroscience				
Course Code	BMS326				
Course Type	Elective				
Level	Bachelor (1st Cycle)				
Year / Semester	3 rd Year / 6 th Semester				
Teacher's Name	TBA				
ECTS	5	Lectures / week	2 Hours	Laboratories / week	None
Course Purpose and Objectives	This course will cover the major issues of cellular neuroscience. Recent advances in the understanding of the molecular and cellular events underlying neural signaling, synaptic transmission, neural development, and plasticity will be discussed. The course is designed to provide a foundation needed for the eventual understanding of the neural basis of behavior and cognition.				
Learning Outcomes	<p>Upon successful completion of the course, students will be able to:</p> <ul style="list-style-type: none"> • describe the fundamental characteristics of neurons • discuss the basic operating principles of neural tissue • recognize the signaling capacities of neurons in terms of cellular mechanisms • recall how simple sensory, motor, and learning capacities arise from the operations of neural networks • describe how hormonal and neural elements interact to produce motivation, memory, learning, cognitive thinking, and emotions 				
Prerequisites	BMS122, BMS123, BMS211, BMS212	Co-requisites	None		
Course Content	<ul style="list-style-type: none"> • Introduction to neurons • Glia and ion channels • Transmembrane potential (action potential, resting potential) • Synapse formation • Myelin and synaptic transmission-Synaptic integration • Perception and memory • Motor patterns • Vision, hearing and other sensory systems (olfaction, touch, pain, thermoreception) • Mechanisms of learning • Hormones, genes and behavior 				
Teaching Methodology	Face- to- face				

Bibliography	<p>Squire, L. R., D. Berg, et al. <i>Fundamental Neuroscience</i>. 3rd ed. Academic Press, 2008.</p> <p>Kandel, Eric R., James H. Schwartz, and Thomas M. Jessell, eds. <i>Principles of Neural Science</i>. 4th ed. McGraw-Hill</p> <p>Nicholls, John G. <i>From Neuron to Brain</i>. Sinauer Associates, 2011.</p>										
Assessment	<table border="1" data-bbox="448 520 1156 695"> <tr> <td data-bbox="448 520 919 554">Mid – Term Examination</td> <td data-bbox="919 520 1156 554">30%</td> </tr> <tr> <td data-bbox="448 554 919 588">Final Examination</td> <td data-bbox="919 554 1156 588">40%</td> </tr> <tr> <td data-bbox="448 588 919 621">Assignments</td> <td data-bbox="919 588 1156 621">20%</td> </tr> <tr> <td data-bbox="448 621 919 655">Class Participation</td> <td data-bbox="919 621 1156 655">10%</td> </tr> <tr> <td data-bbox="448 655 919 695"></td> <td data-bbox="919 655 1156 695">100%</td> </tr> </table>	Mid – Term Examination	30%	Final Examination	40%	Assignments	20%	Class Participation	10%		100%
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	100%										
Language	English										