BMS4303: NEUROSCIENCE

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Neuroscience

Subject Code
BMS - Biomedical Sciences
Course Number
4303

Academic Unit
Biomedical Sciences (BMS)

College/School
College of Biomedicine (BD)

Course Duration
One Semester

Credit Units
3

Level
B1, B2, B3, B4 - Bachelor's Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
BMS2201 Molecular Biology of the Cell or BMS2206 Cell Biology & BMS2004 Biochemistry

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract
This course serves as a starting point for undergraduate students who want insight into how human nervous system works. It will provide students the fundamental knowledge in neuroscience, ranging fromneural signaling to basic anatomy of the

nervous system. Students will discuss about the anatomy, functional, and diseases of the structural units/cell types of the neural system in tutorials, and will study certain brain structures and cell types in the lab unit.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Understand fundamental concepts and achieve knowledge of neuroscience		x		
2	Analyse research data and present in scientific ways			x	x
3	Develop the ability to raise scientific questions and discoveries		x	x	x
4	Master basic experimental skills in Neurosciences		x	x	x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Through lectures, students will understand neuroscience basic knowledges.	1, 3	
2	Tutorial	Through quizzes, student will test their learning on the topics addressed in the lectures.	1, 3	
3	Practical	Through lab practicals, students will develop ability to perform some basic assays in Neurosciences.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Practical participation and lab report	1, 2, 3, 4	20	Attendance and lab reports will be scored.	No

2	Quizzes	1, 3	20	Quizzes will be graded.	No

Continuous Assessment (%)

40

Examination (%)

60

Examination Duration (Hours)

2-3

Minimum Continuous Assessment Passing Requirement (%)

40

Minimum Examination Passing Requirement (%)

40

Additional Information for ATs

Minimum Passing Requirement: A minimum of 40% in continuous assessment as well as in examination.

Assessment Rubrics (AR)

Assessment Task

1. Examination

Criterion

To test students' application of materials taught in class and evaluate their performance based on their understanding on the exam

Excellent (A+, A, A-)

High

Good (B+, B, B-)

Significant

Fair (C+, C, C-)

Moderate

Marginal (D)

Basic

Failure (F)

Not even reaching marginal levels

Assessment Task

2. Group project and presentation

Criterion

Ability to apply the knowledge from lectures as well as explore the knowledge that are not covered by the lectures; ability to present a selected topic; ability to collaborate with group mates.

Excellent (A+, A, A-)

High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Assessment Task
3. Practical/lab report

Criterion
Demonstrate subject-specific skills in carrying out experimental work, analyse data and draw conclusion

Excellent (A+, A, A-)
High

Good (B+, B, B-)
Significant

Fair (C+, C, C-)
Moderate

Marginal (D)
Basic

Failure (F)
Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

- Brain
- Spinal cord
- Nervous system
- Neurons
- Glial cells
- Neurodegenerative diseases
- Neural networking

Reading List

Compulsory Readings

	Title
1	No compulsory reading for this course. All contents are provided in the lecture notes which will be uploaded to Canvas before each lecture.

Additional Readings

	Title
1	Suggested reference book:Neuroscience (6th edition)by Dale Purves (Editor), George J. Augustine (Editor), David Fitzpatrick (Editor), William C. Hall (Editor), Anthony-Samuel LaMantia (Editor), Richard D. Mooney (Editor), Michael L. Platt (Editor), Leonard E. White (Editor)Publisher: Sinauer Associates is an imprint of Oxford University Press; 6 edition (October 12, 2017)Language: EnglishISBN-10: 1605353809