NS6001: RESEARCH PROJECT IN NEUROSCIENCE

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Research Project in Neuroscience

Subject Code
NS - Neuroscience
Course Number
6001

Academic Unit
Neuroscience (NS)

College/School
College of Biomedicine (BD)

Course Duration
Two Semesters

Credit Units
0-6

Level
P5, P6 - Postgraduate Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

The aim of this course is to provide students with the opportunity to conduct an independent research project in neuroscience or related fields under supervised guidance. Each project follows an individualized study plan, typically developed by a faculty member.

Through experimental/computational project-based research training, students will develop essential research competencies, including formulating research questions, acquiring experimental skills, and conducting data analysis. Literature review-based research training enables students to learn the latest cutting-edge research developments in the related field, enhance critical thinking capabilities while identifying potential biases and limitations.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Demonstrate advanced understanding of core theories, concepts, and recent advances in their research field	25	x		
2	Critically thinking, evaluate gaps and limitations in existing literature related to their topic.	20		x	x
3	Practical & Technical Skills Analyze and interpret data	20	x	x	
4	Able to identify and solve the research problems.	15		x	x
5	Prepare a dissertation with Logical flow and thematic structuring. Able to integrate sources with clarity, coherence, and academic tone. Proper citation & referencing style	20		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	Project Consultation	Consultation sessions will be made up via instructor and students to assist students in identifying appropriate project topics and to supervise the project progress	1, 2, 3, 5	

2	Individual works	Learn through individual work to help students develop the independent capability of formulating and solving problems via sufficient diligence.	1, 3, 4	
3	Lab based research training	Participation in seminars, journal clubs or similar activities in the respective scientific environment	1, 2, 3, 4, 5	

Additional Information for LTAs

The normal duration of the course is 2 semesters (Semester A & Semester B). Extension will only be approved under special circumstances. The maximum extension duration of the course is 3 semesters (Semester A, Semester B & Summer term). After which, no further extension is permitted.

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Individual Contribution to the research work (For A. Experimental/ Computational lab-based research project in NS6001) Literature Search & Selection(B. Research literature review-based study)	1, 2	10	-	Yes
2	Project Report	1, 2, 3, 4, 5	70	-	Yes
3	Oral Presentation	1, 2, 4	20	-	No

Continuous Assessment (%)

100

Assessment Rubrics (AR)

Assessment Task

Project Proposal (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

The content, literature review and logic of the proposal (70%).
Hypothesis and scientific questions (30%).

Excellent

(A+, A, A-) Demonstrates a high level of knowledge and integration regarding content, literatures, and issues. Provide extensive with different possibilities with detailed explanations for hypothesis and scientific questions to be addressed.

Good

(B+, B, B-) Demonstrates a well-developed knowledge regarding content, literatures, and proposed topics. Provide clear hypothesis for scientific questions.

Fair

(C+, C, C-) Demonstrates s basic knowledge regarding content, literatures, and proposed topics. Provide hypothesis partially for scientific questions.

Marginal

(D) Demonstrates knowledge regarding content, literatures, and proposed topics but lack of logic and details.

Failure

(F) Lack ability to demonstrate the content, literatures, and proposed topics without logic and details.

Assessment Task

Project Milestone Meetings (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Show a professional attitude regarding time planning, collaboration, and the link between theoretical and practical knowledge.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Poor

Failure

(F) Not even reaching marginal levels

Assessment Task

Dissertation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

To be able to define the scientific concept, principles and research questions clearly and logical with integration. Able to present and analyze the data, discuss current limitations. Propose possible solutions and explanations will add additional mark.

Excellent

(A+, A, A-) Demonstrates a high level of understanding for the content with integration. Able to present and analyze a substantial amount of the data, discuss current limitations.

Good

(B+, B, B-) Demonstrates understanding of the content and develops deep thinking for discussed issues. Present and analyze the data correctly.

Fair

(C+, C, C-) Demonstrate a basic content. The discussed issues are easy to understand but lacking of critical data.

Marginal

(D) Demonstrates a correct content but poor writing without discussion.

Failure

(F) Do not submit the assay or not involved in any discussion. The content is poorly written without data.

Assessment Task

Oral Presentation (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

To be able to define the scientific concept, principles and research questions clearly and logical with integration. Able to present and analyze the data, discuss current limitations. Proper answer questions with extensive explanations will add additional mark.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Poor

Failure

(F) Not even reaching marginal levels

Assessment Task

Project Proposal (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

The content, literature review and logic of the proposal (70%).
Hypothesis and scientific questions (30%).

Excellent

(A+, A, A-) Demonstrates a high level of knowledge and integration regarding content, literatures, and issues. Provide extensive with different possibilities with detailed explanations for hypothesis and scientific questions to be addressed.

Good

(B+, B) Demonstrates a well-developed knowledge regarding content, literatures, and proposed topics. Provide clear hypothesis for scientific questions.

Marginal

(B-, C+, C) Demonstrates s basic knowledge regarding content, literatures, and proposed topics. Provide hypothesis partially for scientific questions

Failure

(F) Lack ability to demonstrate the content, literatures, and proposed topics without logic and details.

Assessment Task

Project Milestone Meetings (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Show a professional attitude regarding time planning, collaboration, and the link between theoretical and practical knowledge.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Moderate

Failure

(F) Not even reaching marginal levels

Assessment Task

Dissertation (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

To be able to define the scientific concept, principles and research questions clearly and logical with integration. Able to present and analyze the data, discuss current limitations. Propose possible solutions and explanations will add additional mark.

Excellent

(A+, A, A-) Demonstrates a high level of understanding for the content with integration. Able to present and analyze a substantial amount of the data, discuss current limitations.

Good

(B+, B) Demonstrates understanding of the content and develops deep thinking for discussed issues. Present and analyze the data correctly.

Marginal

(B-, C+, C) Demonstrate a basic content. The discussed issues are easy to understand but lacking of critical data.

Failure

(F) Do not submit the assay or not involved in any discussion. The content is poorly written without data.

Assessment Task

Oral Presentation (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

To be able to define the scientific concept, principles and research questions clearly and logical with integration. Able to present and analyze the data, discuss current limitations. Proper answer questions with extensive explanations will add additional mark.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Moderate

Failure

(F) Not even reaching marginal levels

Part III Other Information

Keyword Syllabus

No formal syllabus. Students will be required to undertake an individually supervised experimental/computational lab-based research project or a literature review-based research.

Reading List

Compulsory Readings

	Title
1	Individual reading list will be established in the study plan.

Additional Readings

	Title
1	Nil