BME4047: DIRECTED STUDIES

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Directed Studies

Subject Code
BME - Biomedical Engineering
Course Number
4047

Academic Unit
Biomedical Engineering (BME)

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
Normative 4-year degree students must complete a minimum of 54 CUs of Major Requirement to be eligibleAdvanced Standing I students must complete a minimum of 45 CUs of Major Requirement to be eligibleAdvanced Standing II students must complete a minimum of 36 CUs of Major Requirement to be eligible

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

The aim of this course is to strengthen the students' creative, analytical, life-long learning, application and integration skill as well as the ability to work independently with self-motivation through studying a selected subject in biomedical engineering under the supervision of an academic member who has the subject knowledge, without attending regular lectures & tutorial/laboratory at the University. An individual is allowed to enrol in this course subject to approval and used only for special occasions such as for those who participate in the Co-operative Education Scheme or Student Exchange.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the key outcome of proposed project.		x	x	
2	Explain the key aspects of the subject.			x	
3	Apply new knowledge gained to produce required outcomes.			x	x
4	Demonstrate effective communication skills on a subject area to layman.			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 Track	Students will carry out learning tasks in the area of biomedical engineering as specified by the supervisor.		
2	Course Track	Students will develop an understanding in the area of biomedical engineering. The content involved was not already completed by the student(s) or equivalent topic(s) may be prescribed and the assessment criteria are established, adopting standards used for a regular taught course, prior to the commencement of the course.		

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Project Track – Proposal, Report and Presentation	1, 2, 3, 4	40	
2	Course Track – To be defined by the supervisor (tests, quizzes, examination, etc.)		60	Tests and quizzes

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

a.Project Track-Proposal

Criterion

Develop a project proposal in consultation with an assigned supervisor, which includes the definition of the problem and main outcomes to be accomplished.

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

a.Project Track-Report

Criterion

Evidence of good literature review to develop a methodology to accomplish the project objectives, project execution and the results obtained, analysing the results and drawing relevant conclusions along with related discussion.

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
a.Project Track-Presentation

Criterion
Summarize the critical aspects of the project undertaken, methodology adopted to accomplish the stated objective, and conclusions drawn showing key results in a concise manner through a presentation.

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
b.Course Track-To be defined by the supervisor (tests, quizzes, examination, etc.)

Criterion
To be prescribed by the supervisor in the Application Form, by adopting standards used for a regular taught course

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

(a) Project Track:
This mode is to undertake an in-depth study of selected literatures or other kinds of publications dealing with some advanced level topics of biomedical engineering. The proposal should not contain work that could be used directly in the student's final year project. That is, the content of the proposed work shall not bear any resemblance to the student's final year project. The supervisor shall not normally be the same person who supervises the student’ s final year project in order to avoid double counting of achievement.
(b) Course Track:
Typical syllabus of a course that was not already completed by the student or equivalent topic(s) may be prescribed. The syllabus has to be proposed by the supervisor, and endorsed by the course examiner.

Reading List

Compulsory Readings

	Title
1	For ‘Project Track’ case, there are no specific compulsory readings. However, the student will be guided to follow one or more books depending on the selected topic to be investigated and the relevant methodologies that could be explored to carry out this directed project.
2	For ‘Course Track’ case, the supervisor will indicate the book(s) or other reading materials to be studied for covering the selected topics.

Additional Readings

	Title
1	For ‘Project Track’ case, student initiative is compulsory to search the literature and explore the topics associated with the project being undertaken through this course.