BME4068: PROJECT (INDIVIDUAL)

Effective Term
Semester B 2025/26

Part I Course Overview

Course Title
Project (Individual)

Subject Code
BME - Biomedical Engineering
Course Number
4068

Academic Unit
Biomedical Engineering (BME)

College/School
College of Biomedicine (BD)

Course Duration
Non-standard Duration

Other Course Duration
Normal Track: 2 semesters
Fast Track: 1 semester
Fast track is normally available to students who repeat the course and opt to continue with the same project and supervisor. This requires the approval of Project Supervisor and Major Leader.

Other Track: 1 semester + 1 summer term
This is for ASII students, students participating in an academic exchange programme, or other special cases that require the approval of the Department.

Credit Units
0-9

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

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Completion of at least 45 CUs (36 CUs for Advanced Standing II students) of the Major Requirement (excluding College Requirement).

(When the project-topic selection-process is offered early, a conditional participation will be allowed to students which includes the additional CUs in progress).

Precursors

Nil

Equivalent Courses

BME4102 Final Year Project / BME4116 Capstone Project II / BME4068C Project (Individual)

Exclusive Courses

Nil

Part II Course Details

Abstract

The aim of this course is to strengthen a student’ s analytical, application and integration skills as well as the ability to work independently through the specification, planning and execution of a project related to one of the four focus areas of biomedical engineering major. The project work also includes preparation of a detailed project report and oral presentation.Focus areas:

1. Cell and Tissue Engineering;
2. Biosensing and Health Informatics;
3. Medical Robotics and AI for Health; and
4. Medical Imaging and Instrumentation.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the nature, aim, scope and importance of a selected problem or project clearly in explicit terms.		x	x	
2	Describe the body of knowledge from selected literature to deepen the understanding of the theory or practice relevant to the chosen problem or project.			x	
3	Apply such theory or knowledge to formulate and implement the methodology for the chosen problem or project.			x	x
4	Demonstrate effective communication on the project process, experience and results in a professional manner, using written, oral and visual media.			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	T1	Students will discuss, under the supervision of a project supervisor, the nature, aim, scope and importance of a selected problem or project related to the subject areas pertaining to his/her major.	1	
2	T2	Students will research and review the available body of knowledge and background information needed to achieve the desired objective.	2	
3	T3.1 T3.2 T3.3	Students will appraise and select the knowledge, theory, or practices learned through study of relevant literature and develop an appropriate project methodology. Students will implement the methodology to the chosen problem or project. Students will analyze the results obtained, draw conclusion and appraise the work done.	3	
4	T4.1 T4.2	Students will document the project process, experience and results in the form of Final Year Project. Students will report according to the given format. Students will make oral presentation and defense of the project endeavor and outcome.	4	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Continuous Assessment	1, 2, 3, 4	100	-	Yes

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task
1. Intermediate Report

Criterion
Evidence of understanding of project significance, definition and scope.
Effort towards literature review and application or use of knowledge in methodology development and implementation.
Analysis and appraisal of results depending on the progress made by that time.

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. Final Report

Criterion
Define the nature, aim, scope and importance of a selected problem or project related to specific subject area.
Evidence of searching the background information and make literature enquiry relevant to the project.
Evidence of developing an appropriate project methodology to achieve the defined project aim/objectives.
Evidence of implementing the methodology logically and purposefully to obtain the results and rationally discuss them before drawing conclusions.

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. Oral Presentation

Criterion
Make oral presentation and defense of the project endeavor and outcome.

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

Additional Information for AR

Assessment Process:

The project group is first assessed independently by the supervisor (weighting: 40%) (including the 10% contribution based on the intermediate progress report) and a group of assessors covering the focus areas (weighting: 60%) assigned by the department via:

- Numeric marking (see Table 1 as a sample for criteria reference), and
- (ii) Commentary (see Table 2 as a sample) for the marks given.

Students are required to submit a short intermediate progress report of 6-8 pages highlighting the major areas covered at the end of one semester/term of registration. 10% of the supervisor's overall assessment weighting will be based on the following considerations as decided by the project supervisor depending on the agreed plan of executing the project and milestones:

- Understanding of project significance, definition and scope
- Effort towards literature review and understanding
- Application or use of knowledge in methodology development
- Methodology implementation
- Analysis and appraisal of results

The template given in Appendix 1 should be used as criteria reference in the final assessment of a Project. In addition to numerical grading, the marks awarded could be summarily justified by the Assessor/Supervisor in clear statements. The Project Assessment Form is given in Appendix 2.

In order to ensure fair assessment standard of all projects, the overall assessment result for each project will be subject to a project assessment review by the Project Moderation Committee led by the Course Examiner in charge of BME4068 and participated by the Major Leader and/or Project Coordinator.

Project Selection and Supervision:

The BME4068 Project involves substantial investigative or developmental work requiring the application of knowledge related to the main subject areas of the student's major. Each student shall work individually, under the supervision of a project supervisor, towards the achievement of the project aim/objectives. The BME4068 requires and expects the students to:

- define the nature, aim, scope and importance of a selected problem or project related to specific subject areas.
- search the background information and make literature enquiry relevant to the project.
- develop the appropriate project methodology to achieve the defined project aim/objectives.
- implement the project methodology logically and purposefully.

- document the project process, experience and results in a final year project report.
- make oral presentation and defense of the project outcome.

Final year project selection normally takes place in Semester B or summer term of each academic year. A list of BME4068 project titles and their brief description offered by BME' s academic staff will be solicited, consolidated and published by the Course Examiner (in conjunction with the respective Major Project Coordinators) of the Final Year Projects. Students are also encouraged to propose topics of their own interest and then attempt to develop them into projects of expected standard in consultation with the chosen supervisors. A period of project consultation between all eligible students and prospective supervisors follows leading to eventual project selection.

The BME4068 project supervisor shall advise and guide the project student throughout the project endeavor and be involved in its final assessment.

Each project student is advised to maintain a project log book and meet his/her project supervisor regularly to report and discuss project progress. The Course Examiner and/or Major Project Coordinator would ask student to submit a short intermediate report at the end of one semester/term of study to assess the progress made. The student may be asked to defer registration for the following semester if the progress is unsatisfactory in the opinion of the project supervisor.

Each project student is eligible to apply for a small sum of money that can be used for project related consumables.

At the end of the project, each student is required to submit hard and soft copies of his/her final year project report, and orally present and defend the work done and project outcome. The project presentations shall be organized and coordinated by the BME4068 Course Examiner and Project Coordinator.

Part III Other Information

Keyword Syllabus

The course has no specific syllabus, and the conduct of project takes place as per the details mentioned in the previous section.

Reading List

Compulsory Readings

	Title
1	There are no specific compulsory readings, and the student needs to undertake literature search and other readings as per the needs of the project undertaken following the advices of the supervisor.

Additional Readings

	Title
1	Student initiative is compulsory to search the literature and study the topics associated with the project on a need basis.