

# MA4530: PROJECT

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## Effective Term

Semester A 2022/23

## Part I Course Overview

### Course Title

Project

### Subject Code

MA - Mathematics

### Course Number

4530

### Academic Unit

Mathematics (MA)

### College/School

College of Science (SI)

### Course Duration

Two Semesters

### Credit Units

0-6

### Level

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

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

MA2503 Linear Algebra / MA1503 Linear Algebra with Applications; and  
MA2508 Multi-variable Calculus; and  
MA3511 Ordinary Differential Equations

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

This course gives the student ample opportunity to demonstrate innovative abilities and initiative in his/her independent treatment of problems, and develops the ability to integrate and apply knowledge and analytical skills to practical situations. The course also serves to give students practice in clear and concise written and spoken communication of the results of an investigation.

### Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	carry out independent study for problem solving and solution seeking.			x
2	apply mathematical knowledge and techniques of various subjects in formulating and analyzing models of real-life problems.			x
3	assess critically appropriateness of methods in approaching the problem.	x		
4	analyze results mathematically with suggestion of feasible actions.		x	
5	write well-structured report and present methodology and results effectively.		x	
6	the combination of CILOs 1-5	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.

### Teaching and Learning Activities (TLAs)

TLAs	Brief Description	CILO No.	Hours/week (if applicable)	
1	Consultation	Learning through consultation helps students identify appropriate themes of projects, acquire knowledge and techniques of specific topics from supervisors as well as improve quality of written work (such as presentation of results in reports).	2, 3, 4, 5	20 hours in total

2	Individual work	Learning through individual work helps students learn independently knowledge and skills required for project completion, and execute the associated work with sufficient diligence.	1, 2, 3, 4, 5, 6	92 hours in total
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**Assessment Tasks / Activities (ATs)**

	<b>ATs</b>	<b>CILO No.</b>	<b>Weighting (%)</b>	<b>Remarks (e.g. Parameter for GenAI use)</b>
1	Project proposal	2, 3	15	Each student is required to submit a project proposal which outlines principal question(s) of investigation, suggested methodology and relevance of the project to various disciplines.
2	Continuous progress	1, 2, 3, 4	20	Student' s progress is monitored regularly so as to identify any problem encountered in study and ensure he/she is likely to complete the project timely in a satisfactory manner.
3	Report	1, 2, 3, 4, 5	40	It should include student' s own account of investigations and findings, with a systematic and critical exposition of knowledge in literature. The student is also required to present materials coherently, with all the necessary references stated.
4	Oral presentation	5	25	Each student is also assessed on the ability to communicate project aims, methodology and investigations/findings effectively.

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Additional Information for ATs**

100% coursework assessment  
(based on project proposal, continuous progress, report and oral presentation)

**Assessment Rubrics (AR)**

**Assessment Task**

1. Project proposal

**Criterion**

Ability of formulate research problem

**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

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**Assessment Task**

2. Continuous progress

**Criterion**

Research skills, problem solving skills

**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

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**Assessment Task**

3. Report

**Criterion**

Writing skills, presentation skills, achieve

**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

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**Assessment Task**

4. Oral Presentation

**Criterion**

Oral presentation skills, ability to answer questions, achievement

**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

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## Part III Other Information

**Keyword Syllabus**

The project must be of an appropriate intellectual level to an honours degree. It should include substantial academic content and requires the student to apply his/her intellect through a wide variety of activities to arrive at a practicable and implementable solution.

**Reading List**

**Compulsory Readings**

<b>Title</b>	
1	The reading list will be provided by each supervisor. In each project proposal, some key references are listed by supervisors, which can serve as reading lists.

**Additional Readings**

<b>Title</b>	
1	Nil