

# MSE4116: DISSERTATION

---

## Effective Term

Semester A 2025/26

## Part I Course Overview

### Course Title

Dissertation

### Subject Code

MSE - Materials Science and Engineering

### Course Number

4116

### Academic Unit

Materials Science and Engineering (MSE)

### College/School

College of Engineering (EG)

### 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

60% of credits completed (Students admitted via Advanced Standing II can seek for special approval from Final Year Project Committee, if appropriate.)

CGPA  $\geq$  1.70 or prior approval by programme leader in case

CGPA  $<$  1.70. Further pre-requisites will be specified by the supervisor of the dissertation.

### Precursors

It will be specified by the supervisor of the dissertation.

### Equivalent Courses

AP4116 Dissertation

### Exclusive Courses

(1) FS4001 Co-operative Education Scheme (CES)

(2) FS4003 CES Placement Project

## Part II Course Details

### Abstract

The project presents the students with an opportunity to demonstrate initiative and innovative abilities and to develop organizing and planning skills, together with skills involving documentation and presentation. Students will be expected to investigate an area of their own choice to substantial depth, in a way that encourages application and integration of the knowledge gained through the course. The project will allow the students to build self-confidence, demonstrate independence, and develop a professional approach to solving problems in practice.

### Course Intended Learning Outcomes (CILOs)

CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1 Integrate knowledge gained through previous courses to design a component or a system, or to conduct an investigation related to materials engineering		x	x	x
2 Design and conduct experiments, analyze and interpret data, demonstrate organizing and planning skill, communicate the project details professionally		x	x	x
3 Demonstrate independence, develop a professional approach to solve engineering problems		x	x	x
4 Demonstrate initiative, innovative abilities, and critical thinking		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 Projects	Conduct projects on materials engineering	1, 2, 3, 4	3hrs/wk for 26 weeks

### Assessment Tasks / Activities (ATs)

ATs	CILO No.	Weighting (%)	Remarks ("- for nil entry)	Allow Use of GenAI?
1 Dissertation report	1, 2, 3, 4	80	-	No
2 Oral presentation	1, 2, 3, 4	15	-	No

3	English consultation	2	5	-	No
---	----------------------	---	---	---	----

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Assessment Rubrics (AR)****Assessment Task**

1. Dissertation reports

**Criterion**

Achievements in CILOs

**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. Oral presentation

**Criterion**

Achievements in CILOs

**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. English consultation

**Criterion**

Ability to write a comprehensive dissertation

**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**

Nil

**Reading List**

**Compulsory Readings**

Title	
1	Nil

**Additional Readings**

Title	
1	Nil