

FS4006: SUMMER RESEARCH INTERNSHIP

Effective Term

Summer Term 2024

Part I Course Overview

Course Title

Summer Research Internship

Subject Code

FS - College of Engineering (FS)

Course Number

4006

Academic Unit

College of Engineering (EG)

College/School

College of Engineering (EG)

Course Duration

Non-standard Duration

Other Course Duration

8 - 13 weeks

Credit Units

6

Level

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

Medium of Instruction

English

Medium of Assessment

English

Prerequisites

Nil

Precursors

Nil

Equivalent Courses

Nil

Exclusive Courses

CSCI4006 Summer Research Project for Science Students

Part II Course Details

Abstract

This course aims to provide students with the opportunity to acquire research skills and experience the life of a full-time researcher in a research environment and/or real work in an industrial setting. Industrial/cultural visits will also enhance and enrich students' knowledge in science and engineering related industrial establishments. Each student taking this course will be required to undertake a research project as guided by the supervisor. The student will develop skills in problem-solving and in scientific communication in the form of written and verbal presentation of information.

Individual research project supervisors will determine the details of the TLAs and Assessment Tasks and provide guidance to the students, while the course leader will oversee and coordinate the activities and provide final assessment.

Course Intended Learning Outcomes (CILOs)

CILOs		Weighting (if DEC-A1 DEC-A2 DEC-A3 app.)			
1	Identify and practice the soft skills as well as the roles of professionals that are required at the workplace / research environment.		x	x	
2	Integrate the knowledge acquired in the classroom and apply it to workplace / research environments.		x	x	x
3	Describe and analyse the scope, the significance and the state-of-the-art knowledge of the intended research project.				x
4	Evaluate the implications of the proposed technical/ scientific knowledge and skills learned through oral presentation and written report.				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	Guided research project	Students will participate in a guided research project in which they will gain experience in conducting research studies. They will present and discuss their research results in the form of written reports and oral presentations.	1, 2, 3, 4	No less than 240 hours.
2	Training log book	Students are required to keep a training log regarding the progress of the research project.	2, 3, 4	Throughout the internship period.
3	Reflective writing	Students are required to carry out reflective writing on what they learnt in the cultural/ industrial visits and research studies.	1, 2, 3, 4	

Assessment Tasks / Activities (ATs)

ATs		CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Assessment of training log book and feedback from project supervisor	1, 2, 3, 4	10	
2	Individual performance in the research project and feedback from the project supervisor.	1, 2, 3, 4	60	
3	Written reports	1, 2, 3, 4	30	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)**Assessment Task**

1. Training log book and day-to-day duty

Criterion

Ability to record precisely (a) the accomplished tasks and output if any, (b) the student's observation and analysis and (c) the knowledge/skills acquired by the student during the period.

Ability to deliver one's assigned duties in an efficient and effective manner, at the same time demonstrating excellent (a) attitude (b) problem solving abilities (c) critical and analytical skills and (d) communication and interpersonal 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

Assessment Task

2. Research project

Criterion

Ability to conduct the research on his/her own and to record raw data including units in a way that is clear and appropriate, to be actively and diligently engaged in the research, to discuss the findings with the supervisor at regular frequencies.

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

Ability to clearly organize a presentation with cohesive content, to deliver a compelling presentation with confidence using different techniques (posture, gesture, eye contact, and vocal expressiveness), to understand the questions completely, and to answer the questions as precisely as they can be.

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

4. Written report

Criterion

Ability to demonstrate thorough understanding of the project topic and excellent execution of a wide range of conventions relevant to science, to use reference to support the ideas, to present and analyse data in excellent ways, and to use scientific languages that skilfully communicate meaning to readers with clarity and fluency.

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

Scientific research; science and technology; critical thinking and problem solving skill

Reading List

Compulsory Readings

Title	
1	Nil

Additional Readings

Title	
1	Nil