# CS4552: GUIDED STUDY

**Effective Term**
Semester A 2022/23

## Part I Course Overview

**Course Title**
Guided Study

**Subject Code**
CS - Computer Science
**Course Number**
4552

**Academic Unit**
Computer Science (CS)

**College/School**
College of Engineering (EG)

**Course Duration**
One Semester

**Credit Units**
3

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

**Medium of Instruction**
English

**Medium of Assessment**
English

**Prerequisites**
Completion of at least 60 credit units with an overall GPA of at least 2.0

**Precursors**
Nil

**Equivalent Courses**
Nil

**Exclusive Courses**
Nil

## Part II Course Details

**Abstract**
The aim of this course is to provide an opportunity to explore an area of computing in consultation with a member of the academic staff. The objectives are to develop in-depth knowledge of a chosen field of interest and to exercise the skill and

techniques acquired in earlier courses, and to apply these skills in proposing solutions to a research problem or formulating creative designs of novel computer applications. The students will also have the opportunity to develop writing skill in conveying the results of project undertaken.

**Course Intended Learning Outcomes (CILOs)**

| | CILOs | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|---|---|---|---|---|---|
| 1 | Identify a challenging computer related problem, analyze the problem in detail in the context of an extensive review of existing literature. | 20 | | x | |
| 2 | Propose innovative solutions, formulate a detailed design of the solutions and comparison of the proposed solution with existing approaches. | 50 | | x | x |
| 3 | Ability to document and report the system design process, background study and where appropriate the expected performance of the solution, and to present the key concepts in a cogent manner. | 30 | | | |

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 | Individual Consultation | Each student is expected to solicit the support of an academic supervisor on a one to one basis for each project. The role of the supervisor is to closely monitor the project progress with project meetings regularly, in order to give advice to the student, to establish criteria for assessment, and to advise on possible solutions and potential problems. | 1, 2, 3 | 1 hour / week individual consultation |

**Assessment Tasks / Activities (ATs)**

| | ATs | CILO No. | Weighting (%) | Remarks (e.g. Parameter for GenAI use) |
|---|---|---|---|---|
| 1 | Project Report | 1, 2, 3 | 100 | |

**Continuous Assessment (%)**

100

**Examination (%)**

0

**Assessment Rubrics (AR)**

**Assessment Task**

Final Report

**Criterion**

1.1 Ability to conduct comprehensive literature survey.

**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**
Final Report

**Criterion**
1.2 Ability to develop innovation solution for a research-oriented problem in a specialized area in computer science.

**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**
Final Report

**Criterion**
1.1 Ability to produce well written interim and final reports regarding the progress and results of the research work.

**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**
Investigate research problem or formulate creative designs of novel computer applications in a specialized area of computer science including but not limited to : Computer Networks, Operating Systems, Distributed Systems, Software Engineering, Data Engineering, Performance Evaluation, Artificial Intelligence, Algorithms, Programming Languages, Multimedia Systems and Pervasive Computing; Survey of related work; Design/Analysis, Final Report.

## Reading List

### Compulsory Readings

| | Title |
|---|---|
| 1 | Readings related to the selected topic of study will be assigned by supervisor. |

### Additional Readings

| | Title |
|---|---|
| 1 | Readings related to the selected topic of study will be assigned by supervisor. |