# Course Specification

— (Bachelor)

**Course Title**: Graduation Project 1

**Course Code**: 571CCS-2

**Program**: Bachelor of Science in Computer Science

**Department**: Department of Computer Science

**College**: Computer Science and Information Systems

**Institution**: Najran University

**Version**: 2.0

**Last Revision Date**: August 2022

## Table of Contents

## A. General information about the course:

### 1. Course Identification

### 1. Credit hours: ( 2 )

2 (0, 4, 1) [Theory, Lab, Tutorial]

### 2. Course type

| A. | ☐University | ☐College | ☒ Department | ☐Track | ☐Others |
|----|-------------|----------|--------------|--------|---------|
| B. | ☒ Required | | | ☐Elective | |

### 3. Level/year at which this course is offered: ( Level 9/Year 5)

### 4. Course General Description:

Graduation Project 1 will guide students to conduct a critical background study on their chosen topic. It will assist them on requirements gathering including analysis and synthesizes of gathered data and will aid students to perform feasibility studies and functional and non-functional requirements to accumulate problems respective to their topic/environment. It will facilitate them to identify and apply appropriate methods/designs to overcome those problems, identify the scope of their project in the real world, and support students to critically evaluate the proposed design using suitable methods and techniques. Students will develop communication skills through presentation and be able to work individually as well as in a team. Students will be guided to maintain ethical issues, documentation formats, use of references and checking plagiarism. And finally, students will produce a formal report describing their findings, contributions, and future development/implementation.

### 5. Pre-requirements for this course (if any):

451CCS-3 (Software Engineering)

### 6. Co-requisites for this course (if any):

None

### 7. Course Main Objective(s):

The student will demonstrate his ability to design computer systems based on his learning during the previous levels and write proper reports.

### 2. Teaching mode (mark all that apply)

| No | Mode of Instruction | Contact Hours | Percentage |
|----|---------------------|---------------|------------|
| 1 | Traditional classroom | 75 | 100% |
| 2 | E-learning | | |
| 3 | Hybrid <br> • Traditional classroom <br> • E-learning | | |
| 4 | Distance learning | | |

## 3. Contact Hours (based on the academic semester)

| No | Activity | Contact Hours |
|----|----------|---------------|
| 1. | **Lectures** | |
| 2. | **Laboratory/Studio** | 60 |
| 3. | **Field** | |
| 4. | **Tutorial** | 15 |
| 5. | **Others (specify)** | |
| **Total** | | 75 |

## B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

| Code | Course Learning Outcomes | Code of PLOs aligned with the program | Teaching Strategies | Assessment Methods |
|------|--------------------------|----------------------------------------|---------------------|---------------------|
| **1.0** | **Knowledge and understanding** | | | |
| 1.1 | | | | |
| 1.2 | | | | |
| 1.3 | | | | |
| **2.0** | **Skills** | | | |
| 2.1 | Classify various information system related problems and project live cycle activities such as selecting, planning, analysis, design, implementation, testing, deployment, and maintenance | $S_1$, $S_3$ | Class lectures, working with the team, reading about the topic | Presentations, Reports |
| 2.2 | Conduct (Survey) an effective background study | $S_4$ | Class lectures, working with the team, reading about the topic | Presentations, Reports |

| Code | Course Learning Outcomes | Code of PLOs aligned with the program | Teaching Strategies | Assessment Methods |
|------|--------------------------|----------------------------------------|---------------------|---------------------|
| | and be able to contrast and critique related work. | | | |
| 2.3 | Generate functional and non-functional requirements. | $S_1$ | Class lectures, working with the team, reading about the topic | Presentations, Reports |
| 2.4 | Analyze the problem and develop an initial solution. | $S_3$, $S_1$ | Class lectures, working with the team, reading about the topic | Presentations, Reports |
| 2.5 | Apply a multi-disciplinary approach to designing the project. | $S_2$ | Class lectures, working with the team, reading about the topic | Presentations, Reports |
| 3.0 | **Values, autonomy, and responsibility** | | | |
| 3.1 | Demonstrate the ability to work independently and in a team. | C1,C3 | Class lectures, working with the team, reading about the topic | Presentations, Reports |
| 3.2 | Demonstrate the ability to communicate effectively. | C1 | Class lectures, working with the team, reading about the topic | Presentations, Reports |
| 3.3 | Prepare a report for the project | C2,C3 | Class lectures, working with the team, reading about the topic, writing the report | Presentations, Reports |

## C. Course Content

| No | List of Topics | Contact Hours |
|----|----------------|---------------|
| 1. | List of Topics | 1 |
| 2. | Class1: Review of graduation policy | 1 |
| 3. | Class 2: Project Proposal (Vision document/feature list) | 1 |
| 4. | Class 3: Basics of project management (Tasks, plan, scope) | 1 |
| 5. | Class 4: Presentation tools and techniques | 2 |
| 6. | Class 5: Requirements / Requirements Validation / Functional Specification Document | 2 |
| 7. | Class 6: Use case Diagram, Use Case Description / Activity Diagram / Sequence Diagram | 2 |
| 8. | Class 7: Data Flow Diagram, System Architecture | 2 |
| 9. | Class 8: Database/ ER Diagram | 1 |
| 10. | Class 9: UML | 1 |

| | | |
|---|---|---|
| **11.** | INTRODUCTION<br>Introduction; ProblemStatement.; Purpose of this Document; Project Structure; Modules (users, database, ...); Scope; System Limitations; Objectives; | 6 |
| **12.** | BACKGROUND STUDY | 7 |
| **13** | METHOD OF INVESTIGATION AND ANALYSIS<br>Functional and Nonfunctional Requirements;  Project Methodology | 10 |
| **14** | SYSTEM DESIGN<br>Use case Diagrams; Activity Diagrams; Sequence Diagrams; Database Entity Relationship Diagrams; Class Diagrams; database table structure | 20 |
| **15** | CONCLUSION AND FUTURE WORK | 3 |
| **Total** | | **75** |

## D. Students Assessment Activities

| No | Assessment Activities * | Assessment timing (in week no) | Percentage of Total Assessment Score |
|---|---|---|---|
| **1.** | Presentation 1 (By supervisor) | 9th week | 12 |
| **2.** | Presentation 2 (By supervisor) | 12th week | 12 |
| **3.** | Final Presentation (By Examiners) | 14th week | 25 |
| **4.** | Final Report (By Examiners) | 14th week | 25 |
| **5.** | Task assignments (By supervisor) | Continues | 26 |

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

## E. Learning Resources and Facilities

### 1. References and Learning Resources

| | |
|---|---|
| **Essential References** | To be determined by the instructor |
| **Supportive References** | To be determined by the instructor |
| **Electronic Materials** | To be determined by the instructor |
| **Other Learning Materials** | To be determined by the instructor |

### 2. Required Facilities and equipment

| Items | Resources |
|---|---|
| **facilities** | Classroom, and the instructor may ask for laboratory if needed. |

| Items | Resources |
|---|---|
| (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.) | |
| **Technology equipment** (projector, smart board, software) | Datashow, and the instructor may ask for software if needed. |
| **Other equipment** (depending on the nature of the specialty) | Depends on the project requirements |

## F. Assessment of Course Quality

| Assessment Areas/Issues | Assessor | Assessment Methods |
|---|---|---|
| Collecting students' suggestions to facilitate more during the class. | Students | Verbal discussion |
| Student's questionnaire once during the semester about course learning outcomes. | Students | Indirect Survey |
| Achievement percentage of course learning outcomes, direct evaluation using CLO assessment sheet | Course Instructor | Direct evaluation using CLO achievement calculation |
| Teaching strategies | Quality unit | Indirect |
| Assessment methods | Quality unit | Indirect |
| Instructor performance | Quality unit | Indirect |
| Course content | Quality unit | Indirect |

**Assessors** (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)
**Assessment Methods** (Direct, Indirect)

## G. Specification Approval

| COUNCIL /COMMITTEE | Computer Science Departmental Council |
|---|---|
| REFERENCE NO. | 14440203-0185-00002 |
| DATE | 1st Sep, 2022 |