T-104
2022

# Course Specification
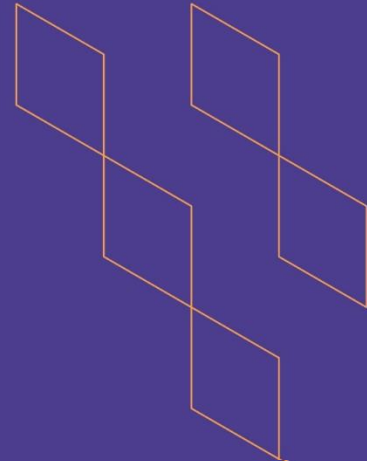
| | |
|---|---|
| Course Title: | **Senior Project for CIS 2** |
| Course Code: | **IS1756** |
| Program: | **Computer Information Systems** |
| Department: | **Computer Information Systems** |
| College: | **Computer Science & Information Technology** |
| Institution: | **Al-Baha University** |
| Version: | **T104 – V2** |
| Last Revision Date: | **May 25, 2023** |

# Table of Contents:

## A. General information about the course:

| Course Identification | |
|---|---|
| **1. Credit hours:** | 3 Credit Hours (3, 0, 0) (Lecture, Lab, Tutorial) (3 Contact Hours) |

**2. Course type**

| a. | University ☐ | College ☐ | Department ☒ | Track ☐ | Others ☐ |
|---|---|---|---|---|---|
| b. | Required ☒ | Elective ☐ | | | |

| **3. Level/year at which this course is offered:** | 12th level/ 4th Year |
|---|---|

**4. Course general Description**

Senior Project for CIS 2 is the second part of a two-semester sequence designed for final-year students in the Bachelor of Computer Information Systems (CIS) program. The course allows students to complete a significant software development project demonstrating their ability to apply software engineering principles and techniques to solve real-world problems. It emphasizes the software development life cycle's implementation, testing, deployment, and documentation stages. Students will work in teams to develop and implement their software development project, which may involve programming, database design and management, and system integration. During the course, students will learn how to use relevant software development tools and technologies, such as programming languages, web development frameworks, version control systems, and testing frameworks. The course also provides an opportunity for students to develop further their communication, teamwork, and problem-solving skills, which are essential for success in information systems. At the end of the course, students will give an oral presentation for their final project to an audience of peers and faculty. They will also provide a report that documents the different phases undertaken during the project.

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

IS1753-Senior Project for CIS 1

**6. Co- requirements for this course (if any):** None

**7. Course Main Objective(s)**

The main objectives of this course are to:
- Recall the results of requirement analysis and solution design details and improve them if necessary.
- Implement a software system based on given customers' requirements.
- Develop system testing/evaluation with optimizations.
- Work effectively in teams.
- Communicate effectively in written project reports and oral presentations.

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

| No | Mode of Instruction | Contact Hours | Percentage |
|----|---------------------|---------------|------------|
| 1. | Traditional classroom | | |
| 2. | E-learning | | |
| 3. | Hybrid<br>• Traditional classroom<br>• E-learning | 30 | %100 |
| 4. | Distance learning | | |

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

| No | Activity | Contact Hours |
|----|----------|---------------|
| 1. | Lectures | - |
| 2. | Laboratory/Studio | - |
| 3. | Field | - |
| 4. | Tutorial | - |
| 5. | Others (Meetings with supervisors which can be through a Learning Management System - LMS (e.g., Rafid) or in person) | 30 |
| | Total | 30 |

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

| Code | Course Learning Outcomes | Code of CLOs aligned with program | Teaching Strategies | Assessment Methods |
|---|---|---|---|---|
| 1.0 | Knowledge and understanding | | | |
| 1.1 | Recall the results of requirement analysis and solution design details and improve them if necessary. | K2 | − Physical and online meetings with supervisor<br>− Group discussion<br>− Project assignments | *Direct Assessment Tool*<br>− Midterm Evaluation (Rubrics)<br>− Commitment and Teamwork Continuous Assessment (Rubrics)<br>− Final Evaluation (Rubrics) |
| 2.0 | Skills | | | |
| 2.1 | Implement a software system based on given customer requirements. | S2 | − Physical and online meetings with supervisor<br>− Group discussion<br>− Project assignments<br>− Seminars/trainings | *Direct Assessment Tool*<br>− Midterm Evaluation (Rubrics)<br>− Commitment and Teamwork Continuous Assessment (Rubrics)<br>− Final Evaluation (Rubrics) |
| 2.2 | Develop system testing/evaluation with optimizations. | S2 | − Physical and online meetings with supervisor<br>− Group discussion<br>− Project assignments<br>− Case studies<br>− Seminars/trainings | *Direct Assessment Tool*<br>− Commitment and Teamwork Continuous Assessment (Rubrics)<br>− Final Evaluation (Rubrics) |
| 2.3 | Communicate effectively in written project reports and oral presentations using the appropriate project management tools and scientific research methods. | S3 | − Physical and online meetings with supervisor<br>− Group discussion<br>− Preparing documentations | *Direct Assessment Tool*<br>− Midterm Evaluation (Rubrics)<br>− Commitment and Teamwork Continuous Assessment (Rubrics)<br>− Final Evaluation (Rubrics)<br>− Peer Evaluation (Rubrics) |
| 3.0 | Values, autonomy, and responsibility | | | |
| 3.1 | Make the assigned tasks on time within a team or independently with seriousness, enthusiasm, responsibility, and respect for ethics and others' opinions. | V1 | − Physical and online meetings with supervisor<br>− Group discussion | *Direct Assessment Tool*<br>− Midterm Evaluation (Rubrics)<br>− Commitment and Teamwork Continuous Assessment (Rubrics) |
| 3.2 | Students will demonstrate an ability to think creatively and innovatively about the future of the field of information systems and computer science. | V4 | − Group discussion | − Creative and innovative project idea |

## C. Course Content

| No | List of Topics | Contact Hours |
|----|----------------|---------------|
| 1. | Solution Design Improvement | 3 |
| 2. | System Prototype Implementation | 9 |
| 3. | Solution Optimization | 6 |
| 4. | System Testing | 6 |
| 5. | Project Documentation | 6 |
| | Total | 30 |

## D. Students Assessment Activities

| No | Assessment Activities * | Assessment timing (in week no) | Percentage of Total Assessment Score |
|----|-------------------------|--------------------------------|--------------------------------------|
| 1. | Midterm Evaluation Exam | Week 6 | 30% (By the project supervisor) |
| 2. | Commitment and Teamwork Continuous Assessment | Week 1-10 | 20% (By the project supervisor/ evidence) |
| 3. | Final Evaluation Exam (Oral Presentation in front of the Evaluation Committee as well as providing a project report) | Week 11 | 50% (By independent evaluation committee) |

*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 | - |
|---|---|
| Supportive References | • Dennis, A., Wixom, B. H., & Roth, R. M. (2021). *Systems Analysis and Design*, 8th Edition. John Wiley & Sons. ISBN: 978-1-119-80378-2.<br>• Martin, R. C. (2009). *Clean Code: A Handbook of Agile Software Craftsmanship*. Pearson Education.<br>• Martin, R. C. (2011). *The Clean Coder: A Code of Conduct For Professional Programmers*. Pearson Education.<br>• McConnell, S. (2004). *Code Complete: A Practical Handbook of Software Construction*. Microsoft Press; 2nd edition.<br>• Berkun, S. (2005). *The Art of Project Management*. O'reilly. |
| Electronic Materials | • Access to the Saudi Digital Library (SDL).<br>• Using the Learning Management System of the university – Rafid System (https://lms.bu.edu.sa/).<br>• Open-source software libraries and frameworks, such as GitHub, Stack Overflow, and Medium |
| Other Learning Materials | • Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/). |

## 2. Required Facilities and equipment

| Items | Resources |
|---|---|
| Facilities<br>(Classrooms, laboratories, exhibition rooms, simulation rooms, etc.) | − A classroom or lecture hall for 3-5 students or more to present their project work.<br>− A laboratory with 3-5 computers or more to be used to prepare the project. |
| Technology equipment<br>(projector, smart board, software) | − A laptop or access to a desktop computer with access to necessary computational tools and platforms.<br>− A digital image projection system with connection to desktop or laptop computer.<br>− High speed Internet connection |
| Other equipment<br>(depending on the nature of the specialty) | − Mainly the software and hardware used for CIS-related senior projects (e.g., Enterprise Systems, Data and Information Management, ERP, Data Mining, Big Data, ….). |

# F. Assessment of Course Quality

| Assessment Areas/Issues | Assessor | Assessment Methods |
|---|---|---|
| Effectiveness of teaching | − Students<br>− Faculty<br>− Program Leader<br>− Course Coordinator | − Surveys (indirect).<br>− Direct feedback from students (direct)<br>− Comprehensive Course report (where we can find information about teaching difficulties and action plan, …) |

| Assessment Areas/Issues | Assessor | Assessment Methods |
|---|---|---|
| Effectiveness of students' assessment | − Students<br>− Faculty<br>− Program Leader<br>− Course Coordinator<br>− Exam Evaluation Committee | − Surveys (indirect).<br>− Direct feedback from students (direct)<br>− Exam evaluation by the Exam Evaluation Committee (indirect) |
| Quality of learning resources | − Students<br>− Faculty<br>− Peer Reviewers<br>− Course Coordinator | − Surveys (indirect).<br>− Course evaluation by Peer Reviewers (indirect)<br>− Comprehensive Course report |
| The extent to which CLOs have been achieved | − Faculty<br>− Program Leader<br>− Course Coordinator | − Student Results (direct)<br>− Comprehensive Course report (where we can find the CLO assessment results) |
| Other | | |

**Assessor**  (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
**Assessment Methods** (Direct, Indirect)

## G. Specification Approval Data

| COUNCIL /COMMITTEE | Curriculum Committee Meeting |
|---|---|
| REFERENCE NO. | |
| DATE | May 25, 2023 |