



Course Specification

— (Bachelor)

Course Title: **Senior Project for CS 1**

Course Code: **CS1754**

Program: **Computer Science**

Department: **Computer Science and Engineering**

College: **Computer Science and Information Technology**

Institution: **Al-Baha Univeristy**

Version: **V1.0**

Last Revision Date: **30/9/2023**



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A. General information about the course:

1. Course Identification

1. Credit hours: (3)

2. Course type

A. University College Department Track Others
 B. Required Elective

3. Level/year at which this course is offered: (11th Level / 4th Year)

4. Course general Description:

This course is the first part of the capstone course for the CS program that represents a real-life like experience where students team up to solve a real-world computer science problem by applying the knowledge acquired across various undergraduate courses. This course will equip undergraduate computer science students with the basic skills to conduct researches in the field of computer science technologies. The course will also provide guidance to the students in selecting their projects, understanding the research process as well as the tools needed to support implementing the system and writing its documentation. The course aims to introduce the required techniques for conducting a research, implementing systems, writing technical reports and the skills for presenting the work for audiences.

The course discusses other issues including research methods that are normally used in researches such as experiments, survey, interview, and simulations, understanding the importance of literature review, and preparing visual presentation. During the realization of this project, the students are required to investigate, analyze and design a solution for the studied problem following an appropriate planning. The main achievements of this course will be communicated through a project report, oral presentation and poster showing the system analysis and design.

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

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



7. Course Main Objective(s):

The main purpose for this course is to teach students how to:

- Describe a problem from inception to a CS solution planning.
- Create an environment to promote cross disciplinary learning and a team approach to problem solving.
- Give the students the opportunity to apply knowledge and skills learned in other courses in their major field of study.
- Enhance the students' thought and planning process.
- Improve students' written and oral communication skills.
- Provide students with an opportunity to formulate questions and to discover feasible solutions.
- Develop the student's abilities to apply, demonstrate and integrate comprehensive knowledge acquired across various undergraduate courses.
- Allow students to use resource materials and to collect information and data (using SDL, college library, Internet ...) required completing the project.
- Make students capable of integrated project planning, scheduling, analysis and design using the new technologies/methodologies

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	33	100%
2	E-learning		
3	Hybrid <ul style="list-style-type: none"> • Traditional classroom • E-learning 		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	33



2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		33

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	Define a real-life problem	K1	-Lecture -Slide Presentation	-Midterm Exam -Final Exam
1.2	Describe a problem from inception to CS solution planning	K2	-Lecture -Slide Presentation	-Midterm Exam -Final Exam
2.0	Skills			
2.1	Create a requirements analysis for the real-life problem in the problem environment.	S1	•Group Discussion •Group Project •Case Studies	-Midterm Exam -Final Exam
2.2	Analyze the required tasks to solve the outlined problem.	S2	•Assignment •Group Discussion •Group Project	•Oral presentations (rubric)
2.3	Explain a preliminary version of the solution.	S3	•Case Studies •Group Discussion •Group Project	-Midterm Exam -Final Exam
2.4	Write a project report	S4	•Case study •Group Discussion •Group Project	•Project Report •Final Exam
2.5	Prove ability to communicate with, and learn from, experts from different domains throughout the career.	S5	•Group discussion	•Presentation Assessment (Rubric)





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.0	Values, autonomy, and responsibility			
3.1	Participate concepts and techniques in oral presentations	V1	•Project presentations	•Oral presentations (rubric)

C. Course Content

No	List of Topics	Contact Hours
1.	Initiation of the Project	3
2.	Preliminary Investigation	4
3.	Requirements Analysis and Specification	4
4.	Dividing the project tasks	4
5.	System Analysis	7
6.	System Preliminary Design	7
7.	Final preparation of Project Report	4
Total		33

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm Exam and oral presentation	8	30%
2.	Final Exam, Project Report and oral presentation	11	70%

*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	<ul style="list-style-type: none"> Learning PHP, MySQL, JavaScript, and CSS (5th edition)
Supportive References	<ul style="list-style-type: none"> ACM (Association for Computer Machinery) Curricula Recommendations - http://www.acm.org/education/curricula-recommendations
Electronic Materials	<ul style="list-style-type: none"> Access to the Saudi Digital Library (SDL).



	<ul style="list-style-type: none"> Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	<ul style="list-style-type: none"> Computer-based programs/CD, professional standards or regulations and software. Project specific

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<ul style="list-style-type: none"> A classroom or lecture hall with whiteboard for 25 students. A digital circuit's laboratory.
Technology equipment (projector, smart board, software)	<ul style="list-style-type: none"> A digital image projection system with connection to desktop computer and laptop computer. High speed Internet connection. An instructor computer station.
Other equipment (depending on the nature of the specialty)	None

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	<ul style="list-style-type: none"> Students Faculty Peer Reviewers Program Leader Course Coordinator 	<ul style="list-style-type: none"> Surveys (indirect). Direct feedback from students (interview between Program leader and students). Course evaluation by Peer Reviewers (indirect). Class visit by Program Leader Comprehensive Course report (where we can find information about teaching difficulties and action plan, ...)
Effectiveness of Students assessment	<ul style="list-style-type: none"> Students Faculty Peer Reviewers 	<ul style="list-style-type: none"> Surveys (indirect). Direct feedback from students (interview





Assessment Areas/Issues	Assessor	Assessment Methods
	<ul style="list-style-type: none"> • Course Coordinator • Exam Evaluation Committee • Course Coordinator 	<p>between Program leader and students).</p> <ul style="list-style-type: none"> • Assessment results (direct) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about assessment difficulties and action plan, ...) • Exam evaluation by the Exam Evaluation Committee (indirect)
Quality of learning resources	<ul style="list-style-type: none"> • Students • Faculty • Peer Reviewers • Course Coordinator 	<ul style="list-style-type: none"> • Surveys (indirect) • Course evaluation by Peer Reviewers (indirect). • Comprehensive Course report (where we can find information about difficulties and challenges about learning resources as well as consequences and action plan, ...)
The extent to which CLOs have been achieved	<ul style="list-style-type: none"> • Faculty • Program Leader • Course Coordinator • 	<ul style="list-style-type: none"> • Student Results (direct) • Comprehensive Course report (where we can find the CLO assessment results)
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE





REFERENCE NO.

DATE

