هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

T-104
2022

Course Specification

Course Title:	**Cross-Platform Development**
Course Code:	**CS1765**
Program:	**Computer Science**
Department:	**Computer Science & Engineering**
College:	**Computer Science and Information Technology**
Institution:	**Al Baha University**
Version:	**v1.1**
Last Revision Date:	**04-4-2023**

Table of Contents:

2. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	22
2.	Laboratory/Studio	22
3.	Field	
4.	Tutorial	
5.	Others (specify)	
	Total	44

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

Code	Course Learning Outcomes	Code of CLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Discuss the basics of cross-platform development and its importance.	K1	▪ Lectures	▪ Midterm exam ▪ Final Exam
1.2	Explain the concepts of components, state management, routing, and API integration.		▪ Lectures	▪ Midterm exam ▪ Final Exam
1.3	Explain the principles of responsive design and how to apply them in cross-platform development.		▪ Lectures	▪ Midterm exam ▪ Final Exam
2.0	Skills			
2.1	Develop cross-platform applications.	S1	▪ Tutorials ▪ Lectures ▪ Task-based learning ▪ Assignment ▪ project	▪ Assignment (rubric) ▪ Project (rubric) ▪ Final Exam
2.2	Build responsive and interactive user interfaces using components.	S1	▪ Tutorials ▪ Lectures ▪ Task-based learning ▪ Assignment ▪ project	▪ Assignment (rubric) ▪ Project (rubric) ▪ Final Exam

Code	Course Learning Outcomes	Code of CLOs aligned with the program	Teaching Strategies	Assessment Methods
2.3	Manage state in the applications.	S1	▪ Tutorials ▪ Lectures ▪ Task-based learning ▪ Assignment ▪ project	▪ Assignment (rubric) ▪ Project (rubric) ▪ Final Exam
2.4	Implement routing in cross-platform applications.	S1	▪ Tutorials ▪ Lectures ▪ Task-based learning ▪ Assignment ▪ project	▪ Assignment (rubric) ▪ Project (rubric) ▪ Final Exam
2.5	Integrate APIs into the applications.	S1	▪ Tutorials ▪ Lectures ▪ Task-based learning ▪ Assignment ▪ project	▪ Assignment (rubric) ▪ Project (rubric) ▪ Final Exam
3.0	Values, autonomy, and responsibility			
3.1	Work both independently and collaboratively.	V1	▪ Project ▪ Assignments	▪ Rubric

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Cross-Platform Development with React • Overview of cross-platform development • Introduction to React • Setting up the development environment	4
2.	React Components and State Management • React components and their lifecycle. • Understanding state and props in React • Managing state with React hooks	4
3	Building Responsive User Interfaces • Responsive design principles • Styling components with CSS • Creating layouts with CSS Grid and Flexbox	4
4	Handling User Input and Events • Handling user input with forms • Responding to user events with event handlers • Implementing form validation	6

5	Routing in Cross-Platform Applications • Understanding client-side routing • Implementing routing with React Router • Creating nested routes and dynamic route matching	4
6	Consuming APIs in React Applications • Introduction to RESTful APIs • Making API calls with Axios • Handling API responses with Promises and async/await	6
7	State Management with Redux • Introduction to Redux • Creating and managing a Redux store • Connecting React components to the store	4
8	Advanced React Concepts • Higher-Order Components • Render Props • Context API	4
9	Cross-Platform Development with React Native • Introduction to React Native • Building native mobile applications with React Native • Styling components in React Native	4
10	Advanced React Native Concepts • Navigation in React Native • Building custom components in React Native • Animations in React Native	4
Total		44

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm exam	5	20%
2.	Assignments/Discussions	Periodically	20%
3.	Project/Presentation	10-11	20%
4	Final exam	13	40%

*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	"Learning React: A Hands-On Guide to Building Web Applications Using React and Redux" by Kirupa Chinnathambi.

Supportive References	- "React Native: Building Mobile Apps with JavaScript" by Bonnie Eisenman. - "Fullstack React: The Complete Guide to ReactJS and Friends" by Anthony Accomazzo, Ari Lerner, and Clay Allsopp.
Electronic Materials	• Access to the Saudi Digital Library (SDL). • Using the learning management system of the university – Rafid System (https://lms.bu.edu.sa/).
Other Learning Materials	None

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	All the lectures should be in a well-prepared lab that can accommodate 25 students at most.
Technology equipment (projector, smart board, software)	• A digital image projection system with a connection to a computer. • High-speed Internet connection. • An instructor computer station. • An application to manage labs and learning sessions (e.g. NetSupport School).
Other equipment (depending on the nature of the specialty)	None

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching		
Effectiveness of students' assessment	▪ Students ▪ Exam Evaluation Committee ▪ Course Coordinator	▪ Survey (indirect) ▪ Exam Review (direct) ▪ Review of course file (direct)
Quality of learning resources	▪ Faculty ▪ Students	▪ Survey (indirect)
The extent to which CLOs have been achieved	▪ Faculty ▪ Program Leaders or Course Coordinator	▪ Exams (direct) ▪ Exit Exams (direct)
Other		

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

G. Specification Approval Data

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	