



# Course Specification

(Bachelor)

Course Title: Reinforced Concrete and Steel Structures

Course Code: CE 399

Program: Architecture

Department: Architecture

College: Architecture and Planning

Institution: Qassim University

## 1. Course Identification

### Course general Description:

This course covers the Structural system, types, materials and structural behavior, structural morphology, and load transfer conditions, structural details and the principles of structural design and its integration with architectural design. Students should be able to determine the suitable structural solutions for their design.

### Course Main Objective(s):

In this course, the students will:

- Introduce structural materials technology, properties, and functions.
- Develop the ability to compare structural systems suitable for each architectural scenario.
- Introduce the calculations of structural loads and reactions and understand the structural behavior of building elements and structural morphology.
- Introduce the basics of structural schematic design under specific conditions.

## 2. Course Learning Outcomes (CLOs)

Code	Course Learning Outcomes	Code of CLOs aligned with program
1.0	<b>Knowledge and understanding</b>	
1.1	Recognize building structural materials properties. Recall structural system type details and design requirements.	K-1
2.0	<b>Skills</b>	
2.1	Ability to compare structural systems intuitively based on use, limitations, and potential.	S-1
2.2	Ability to apply design concepts in modeling and solving problems related to engineering sciences.	S-2
3.0	<b>Values, autonomy, and responsibility</b>	
3.1	Cooperation in carrying out reinforced concrete research and project.	V-1

### 3. Students Assessment Activities

No	Assessment Activities *
1.	Quizzes, Practical assignments
2.	Mid-term exam
3.	Project (reinforced models)
4.	Final Exam

### 4. Learning Resources and Facilities

Essential References	Angus, J. Structural design for architecture. 1997
Supportive References	1. Silver et al. structural engineering for architects, a handbook. 2013 2. Ramsfy et al. Structures for architects. 2013
Electronic Materials	None
Other Learning Materials	None