Course Description Form

1. Course Name:	
Reinforced Concrete Design	
2. Course Code:	
WCV-31-01	
3. Semester / Year:	
3rd year	
4. Description Preparation Date:	
28-09-2024	
5. Available Attendance Forms:	
Regular students	
6. Number of Credit Hours (Total) / Number of Units (Total)	
120/6	
7. Course administrator's name (mention all, if more than one name)	
Name: Mustafa Kareem Hamzah Email: Mustafa.k.hamzah@gmail.com	

8. Course Objectives

Course Objectives	1- **Designing reinforced concrete beams in terms of bending, shear and torsion.**
	2- **Determining the deflection in beams**
	3- **Designing and analyzing of slabs**
	4- **Analyzing and designing structural columns.**
	5- **Being able to know the appropriate length of reinforcing steel and the places where the steel is cut practically.**

9. Teaching and Learning Strategies

Strategy	Homework Feedback Brainstorm

10. Course Structure

University of Wraith Al-Anbiyaa /collage of engineering /civil engineering department

Course Description

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1−5	20	Introducing students to the basic principles of reinforced concrete designs, identifying the properties of concrete and reinforcing steel, knowing the behavior of beams against the stresses imposed on them, designing a single-reinforced beam.	Introduction to Reinforced Concrete Structures Fundamentals of Reinforced concrete Design Concrete and Steel materials Flexural Beam Behavior Single Reinforcement beam	Theoretical + Applied + Movie Show	1. Quizzes 2. Term exams 3.Extracurricular assignments 4. Reports + accounts of various projects
6−10	20	Ability to design Double reinforcement beam , T-beam design, Identify beam behavior against shear stresses, Beam design against shear stress	Double Reinforcement beam T-beam Design Shear behavior in beam Shear design for beam	Theoretical + Applied + Movie Show	1. Quizzes 2. Term exams 3.Extracurricular assignments 4. Reports + accounts of various projects
11−15	20	Calculating the torsional moment and the resulting stresses and designing the beam against torsional stresses, designing the beam against combined stresses between shear and torsion, knowing the effect of deflection on the lintel and how to calculate it	Torsion behavior in beam Torsion design for beam Shear-Torsion Design Serviceability and Deflection	Theoretical + Applied + Movie Show	1. Quizzes 2. Term exams 3.Extracurricular assignments 4. Reports + accounts of various projects
16−20	20	Study of load transfer between structural elements, knowledge of the slab's behavior against the loads imposed on it, knowledge of the	Load transfer in structural members Behavior of Reinforced concrete slabs under loading	Theoretical + Applied + Movie Show	1. Quizzes 2. Term exams 3.Extracurricular assignments 4. Reports + accounts of various projects

		design of a one-way slab	One-way slab design		
21−25	20	Knowing the methods of designing a two-way slab	Two-way slab design	Theoretical + Applied + Movie Show	1. Quizzes 2. Term exams 3.Extracurricular assignments 4. Reports + accounts of various projects
26−30	20	Knowing the column's behavior towards the loads applied to it, identifying the methods of designing short and long structural columns	Behavior of Reinforced concrete column under loading Short column design Slender Column Design	Theoretical + Applied + Movie Show	1. Quizzes 2. Term exams 3.Extracurricular assignments 4. Reports + accounts of various projects

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	-Design of Reinforced Concrete Structures by Nilson -ACI-Code-318M
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	