

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Gain complete knowledge of modeling differential equations and how to solve them and their physical and engineering applications

1. Teaching Institution	Shatt Al-Arab University -Eng. College
2. University Department/Centre	Civil Engineering Department
3. Course title/code	Reinforced concrete designs-1
4. Modes of Attendance offered	Class attendance
5. Semester/Year	1 st semester / 3 th year
6. Number of hours tuition (total)	75 hrs
7. Date of production/revision of this specification	2024
8. Aims of the Course	The course aims to provide the basic methods in the analysis and design of reinforced concrete structures.

9. Learning Outcomes, Teaching, Learning and Assessment Method

A- Cognitive objectives

A1- Apply basic knowledge in understanding the tests of basic materials used in the formation of reinforced concrete.

A2- Explain laboratory testing methods approved by international codes.

A3- Apply analysis methods specific to beams, including the method of operational stresses in the analysis and design of beams.

A4- Methods of analysis and design of beams with rectangular and special sections and methods of designing beams for shear as well as analysis and design of beams with one direction.

B- Skill objectives specific to the course.

B1- Apply mathematical methods approved in international codes for analysis and design purposes.

B2- Use basic knowledge to research new technologies.

B3- Evaluate the information necessary to apply old and modern methods and compare them.

Teaching and Learning Methods

- Readings, self-learning, panel discussions.
- Exercises and activities in the lecture.
- Homework.
- Directing students to some websites to benefit and develop their capabilities.
- Conducting seminars to explain and analyze a specific issue and find solutions to it

Assessment methods

- Interacting within the lecture.
- Homework and reports.
- Short exams (quizzes).
- Semester and final exams.

C. Thinking Skills

C1- Attention: Arousing the students' attention by implementing one of the applied programs on the display screen in the hall.

C2- Response: Follow up the student's interaction with the material displayed on the screen.

C3- Attention: Follow up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display.

C4 - Forming the direction: meaning that the student is sympathetic to the presentation and may have an opinion about the direction of the presented topic and defend it.

C 5- Formation of value behavior: meaning that the student reaches the top of the emotional ladder, so that he has a stable level in the lesson and does not become lazy or fidgety.

Teaching and Learning Methods

- The usual theoretical presentation method using the writing board and depending on the style (how and why) of the subject and according to the curriculum of the subject.
- The theoretical presentation method using the (data show) device and depending on the method (how and why) of the subject and according to the subject curriculum.
- The method of laboratory display using special devices for measuring the different properties of the substance under experiment.

Assessment methods

- Direct questions in a manner (how and why) for the subject during the theoretical and practical lecture.
- Sudden exams during the theoretical and practical lecture.
- Quarterly exams for the theoretical and practical side.
- Final exams for the theoretical and practical side.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1- Develop the student's ability to perform the duties and deliver them on time

D2 - Logical and programmatic thinking to find programmatic solutions to various problems

D3 - developing the student's ability to dialogue and debate

D4 - Develop the student's ability to deal with modern technology, especially the Internet

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	Mixing, Placing , Compacting and curing of concrete	Introduction	The Lecture	Class work
2	4	Concrete Behavior in compression and Tension .and Quality control.	Introduction	The Lecture	Class work and quiz
3	4	Reinforcing Steel for Concrete .	Introduction	The Lecture	Class work
4	4	Design Codes and Specifications , Loads and Safety Provision.	Introduction	The Lecture	Class work and quiz
5	4	Behavior of R.C beam under loading and working stress method	Working Stress Method	The Lecture	Class work
6	4	Introduction to working stress method. And applications of the working stress method.	Working Stress Method	The Lecture	Class work
7	4	Introduction and behavior of Reinforced concrete beam under bending	Flexural Beam Analysis And Design	The Lecture	Class work
8	4	Design of tension Reinforced Rectangular Beams.	Flexural Beam Analysis And Design	The Lecture	Class work and quiz
9	4	Practical Consideration in the design of Beams.	Flexural Beam Analysis And Design	The Lecture	Class work
10	4	Rectangular Sections with tension and compression Reinforcement.	Flexural Beam Analysis And Design	The Lecture	Class work
11	4	Flexural Analysis And Design of T-Beams.	Flexural Analysis And Design of T-Beams.	The Lecture	Class work

12	4	Shear and Diagonal Tension in Beams.	Shear and Diagonal Tension in Beams.	The Lecture	Class work and quiz
13	4	Shear Strength of concrete without Reinforcement and Reinforced Concrete Beams with Web Reinforcement.	Shear and Diagonal Tension in Beams.	The Lecture	Class work
14	4	Types of Slabs . Analysis and Design of one-Way Slab.	Design and Analysis of slabs.	The Lecture	Class work
15	4	Temperature and Shrinkage Reinforcement.	Design and Analysis of Slabs	The Lecture	Class work

11. Infrastructure	
1- Required reading: · Books · COURSE MATERIALS · OTHER	Structural Concrete Theory and Design, By Nadim Hasson ,Akthem Aktham Al manseer,6 th Edition 2015
2. Key references (sources)	1-Structural Concrete Theory and Design, By Nadim Hasson ,Akthem Aktham Al manseer,6 th Edition 2015 2- Reinforced concrete Design ,7 th Edition 2007 By Chu K ai Wang Charles G salmon and joe APincheire . 3- Design of Reinforced concrete Structures , 2 nd Edition 2008 By Mohammed Tharawt Ghonein, Vol. 4- Design of concrete Structure ,14 th Edition 2010 By Arthur H.Nilson ,Daved DerwCin and Charles W. Dolan. 5- Reinforced concrete design , 6 th Edition 2009 By Edward G. Nawy 6- ACI Code 318-2019
A- Recommended books and references (scientific journals, reports ,....	
B- Electronic references, websites	Reputable websites. Libraries sites in some international universities.

12. Course development plan
Adding new subjects to the curricula within the development of the course by no more than 5%. Adding new references