

Program Engineering

Specialization	Civil Engineering/Building & Constructions
Course Number	20112351
Course Title	Rehabilitation of Structures
Credit Hours	2
Theoretical Hours	2
Practical Hours	0

Brief Course Description:

- ❖ **Concepts of Rehabilitation, Prevention better than cure, Evaluation of conditions of existing structures, Destructive and non-destructive testing, Mechanisms of deterioration of concrete, Corrosion of steel, Repairing materials, Repairing and strengthening techniques, Demolition of structures.**

Course Objectives:

Upon the completion of the course, the student will be able to:

- 1. Understand the Concept of Rehabilitation, its history and its purpose**
- 2. Have a better view of the problems facing the concrete structures and the best ways solving them**
- 3. See the difference between the destructive and the non-destructive testin methods**

Detailed Course Description:

Unit Number	Unit Name	Unit Content	Time Needed
1.	Introduction	Brief description and history	
2.	Concept of Rehabilitation		
3.	Destructive Testing	Mechanical testing	
4.	Non-Destructive Testing		
5.	Biological effects on Concrete	Bacteria and weather	
6.	Corrosion of steel		
7.	Repairing Materials		
8.	Repairing and Strengthening Techniques		
9.	Demolition of structures		

Evaluation Strategies:

Exams		Percentage	Date
Exams	First Exam	20%	--/--/---
	Second Exam	20%	--/--/---
	Final Exam	50%	--/--/---
Homework and Projects		10%	
Discussions and lecture Presentation			

Teaching Methodology: Lectures

Textbooks & References:

References:

- (1) اختبارات المواد الهندسية، أ.د. جعفر الحيدري جامعة البلقاء التطبيقية ، دائرة هندسة المواد والمعادن
- (2) هندسة التآكل المعدني، الدكتور المهندس فرقد فائق الحديثي، الدكتور المهندس عزام احمد عودة، الدكتور المهندس ماساومي تسودا خبير المواد والمعادن المتطوع من الوكالة اليابانية للتعاون الدولي (JICA)