

**The University of Jordan**  
**School of Engineering**  
**Department of Civil Engineering**



**Course Syllabus: Spring 2018/2019**

<b>1. Course Name:</b>	<b>Prestressed Concrete</b>	<b>Course Number:</b> 0941737	<b>Credits:</b> 3
<b>2. Class schedule:</b>	<b>Time and place</b>	Section #1: Monday: 3:30 pm – 6:30 pm (at Civil 103)	
	<b>Office Hours:</b>	Monday and Wednesday: 2:00 pm – 3:30 pm, or by appointment	
<b>3. Instructor:</b>	<b>Name:</b>	Dr. Maha Alqam	
	<b>E-mail address:</b>	m.alqam@ju.edu.jo	
	<b>Office Phone:</b>	+9625355000 Ext.: 22778	

4. **Text Book:** Naaman, A. E., “*Prestressed Concrete Analysis and Design: Fundamentals*”, 2<sup>nd</sup> edition, Techno Press 3000, 2004.
5. **Note:** All lecture notes are taken in part or in whole from *Ref. 1* – Naaman, A. E., “*Prestressed Concrete Analysis and Design (Fundamentals)*”, 2<sup>nd</sup> edition, Techno Press 3000, 2004. Specific figures, charts, tables, text, examples, etc...
6. **Design Code:** Building Code Requirements for Structural Concrete (ACI 318M-11) and Commentary (ACI 318RM-11), ACI 2011.
7. **Contents:**  
 POWERPOINT PRESENTATION - Practical Applications of Cast-in-Place Post-Tensioned Concrete Construction (On-Site); Lifting of PT Beam; Stressing using PT Jacks.  
 CHAPTER 1 - PRINCIPLE METHODS OF PRESTRESSING  
 CHAPTER 2 - PRESTRESSING MATERIALS: STEEL AND CONCRETE  
 CHAPTER 3 - DESIGN PHILOSOPHY  
 CHAPTER 4 - FLEXURE: WORKING STRESS ANALYSIS AND DESIGN  
 CHAPTER 5 - FLEXURE: ULTIMATE STRENGTH ANALYSIS AND DESIGN  
 CHAPTER 6 - DESIGN FOR SHEAR  
 CHAPTER 7 - CAMBER AND DEFLECTION COMPUTATIONS  
 CHAPTER 8 – ANALYSIS AND DESIGN OF COMPOSITE BEAMS  
 CHAPTER 9 - END ANCHORAGE ZONE.
7. **Minimum student materials:** Class handouts and engineering calculator.
8. **Instructional methods:**
  - a. PowerPoint Presentations.
  - b. Lecture/Problem solving sessions.
  - c. Case studies.
  - d. Quizzes and Homework.
  - e. Reading assignments.
9. **Homework Assignments:** Homework will be assigned for each chapter.
10. **Assessment Scheme:**

Evaluation	Weight of 100%
Midterm Exam	30%
Coursework	30%
Final Exam	40%
<b>Total</b>	<b>100%</b>

**Attendance:** Students are expected to attend EVERY CLASS SESSION and they are responsible for all material, announcements, schedule changes, etc., discussed in class. The university policy regarding the attendance will be strictly adhered to.