Republic of Iraq

The Ministry Of Higher Education

& Scientific Research

بسم الله الرحمن الرحيم

University: Diyala
College: Engineering
Department: Civil
Stage: 3rd year
Lecturer name: Wissam D. Salman
Qualification: Lecture Doctor
Place of work: Diyala Univ. / Eng. College / Civil Dep.

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Course Instructor	**Lec. Dr. Wissam D. Salman**				
E-mail	**dr_wissam80@yahoo.com**				
Title	**Theory of Structure**				
Course Coordinator					
Course Objective	**The student Learns how to analysis the statically determinate and indeterminate structures (Beams, frames, trusses, arches and composite structures). Draw the normal, Shear force and Bending moment diagrams. Draw Influence Lines for all types of structures. Calculate the elastic Deformation of structures. Analysis the statically indeterminate structures by approximate method, consistent deformation method, least work method, slops deflection method, moment distribution method. Stiffness matrix method for analysis determinate and indeterminate structures. Introduction about FEM. Computer application.**				
Course Description	**Introduction, Stability and determinacy of structures, Determinate structures, Elastic deformation for determinate structures, Approximate analysis of indeterminate structures, Analysis of indeterminate structures, Influence line for determinate structures, Influence line for indeterminate structures, Analysis of determinate and indeterminate structures using stiffness method, Introduction to finite element method, Computer applications**				
Textbook	**Elementary Theory of Structures** **By : YUAN-YU HSIEH, 10th Edition, 1970, published by Prentice-Hall, Inc., Englewood Cliffs, New Jersey.**				
Course Assessments	**Term Tests**	**Laboratory**	**Quizzes**	**Project**	**Final Exam**
	30%	**--**	**10%**	**-**	**60%**
General Notes					

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Course Weekly Outline

Week	Date	Topes Covered	Lab. Experiment Assignments	Notes
1	21/9	Introduction		
2	28/9	Stability and determinacy of beams		
3	5/10	Stability and determinacy of trusses and frames		
4	12/10	Stability and determinacy of arches and composite structures		
5	19/10	Analysis of determinate beams and frames		
6	26/10	Analysis of determinate trusses		
7	2/11	Analysis of determinate arches and composite structures		
8	9/11	Influence lines of Statically determinate beams		
9	16/11	Influence lines of Statically determinate trusses		
10	23/11	Influence lines of Statically determinate frames		
11	30/11	Influence lines of Statically determinate composite structures		
12	7/12	Approximate analysis of indeterminate structures		
13	14/12	Approximate analysis of indeterminate structures		
14	21/12	Elastic deformation for determinate structures, virtual work		
15	28/12	Elastic deformation for determinate structures, castigliano's theorem		
16	4/1	Elastic deformation for determinate structures, conjugate beam		
Half – year break				
17	15/2	Analysis of indeterminate structures, consistent deformation method		
18	22/2	Analysis of indeterminate structures, consistent deformation method		
19	1/3	Analysis of indeterminate structures, least work method		
20	8/3	Analysis of indeterminate structures, slop deflection method		
21	15/3	Analysis of indeterminate structures, slop deflection method		
22	22/3	Analysis of indeterminate structures, moment distribution method		
23	29/3	Analysis of indeterminate structures, moment distribution method		
24	5/4	Influence lines of Statically indeterminate beams		
25	12/4	Influence lines of Statically indeterminate trusses		
26	19/4	Influence lines of Statically indeterminate frames		
27	26/4	Influence lines of Statically indeterminate composite structures		
28	3/5	Analysis of determinate and indeterminate structures using stiffness method		
29	10/5	Analysis of determinate and indeterminate structures using stiffness method		
30	17/5	Analysis of determinate and indeterminate structures using stiffness method		
31	24/5	Introduction to finite element method		
32	31/5	Computer applications		

INSTRUCTOR Signature: **Dean Signature:**