

LESSON PLAN

Academic Session :- 2022-2023

Discipline: Civil.Engineering

Name of teaching faculty: Swagatika Dani

Subject: Structural Design-II(Th.2)

Semester from Date:15/09/2022 to 22/12/2022

Semester: 5th

No. of weeks: 14

**4P/
week**

No. of Days/ week class allotted: 04 period per week(Wednesday, Saturday 1period each, Friday 2periods)

**Total
period:
60**

MONTH	Week	DATE	DAYS/ PERIOD	Syllabus to be covered	NO. OF PERIOD	
				CHAPTER-1- Introduction (5P)		
SEPTEM BER	3RD WEEK	16/09/2022	Friday	1.1.Common steel structures, Advantages and disadvantages of steel structures; Types of steel, properties of structural steel	1	
		16/09/2022	Friday	1.2.Rolled steel sections, special considerations in steel design	1	
		17/09/2022	Saturday	1.3.Loads and load combinations	1	
		21/09/2022	Wednesday	1.4.Structural analysis and design philosophy	1	
		23/09/2022	Friday	1.5.Brief review of Principles of Limit State design	1	
	4TH WEEK				CHAPTER-2-Structural Steel Fasteners and connections(10P)	
					2.1.Bolted Connection	
		23/09/2022	Friday		2.1.1.Classification of bolts, advantages and disadvantages of bolted connections	1
		24/09/2022	Saturday		2.1.2. Different terminology, Spacing and edge distance of bolt holes	1
		28/09/2022	Wednesday		2.1.3.Types of bolted connections.	1
	5TH WEEK				2.1.4.Types of action of fasteners, assumptions and principles of design	1
		30/09/2022	Friday		2.1.5.Strength of plates in a joint, strength of bearing type bolts(shear capacity and bearing capacity), reduction factors, and shear capacity of HSFG bolts	1
		01/10/2022	Saturday		2.1.6.Analysis and design of joints using bearing type and HSFG bolts(expert eccentric load and prying forces)	1
		12/10/2022	Wednesday		2.1.7.Efficiency of a joint	1
1ST WEEK				2.2.Welded connections:		
	14/10/2022	Friday		2.2.1. Advantages and Disadvantages of welded connection	1	
	14/10/2022	Friday		2.2.2. Types of welded joints and specifications for welding	1	

OCTOBER	3RD WEEK	15/10/2022	Saturday	2.2.3.Design stresses in welds, strength of welded joints	1	
		19/10/2022	Wednesday	Class test	1	
	4TH WEEK			CHAPTER-3-Design of Steel tension Members(10P)		
		21/10/2022	Friday	3.1 .Common shapes of tension members.	1	
		21/10/2022	Friday	3.2.Common shapes of tension members	1	
				3.3.Maximum values of effective slenderness ratio	1	
		22/10/2022	Saturday			
				3.4.Maximum values of effective slenderness ratio	1	
		26/10/2022	Wednesday			
	5TH WEEK	28/10/2022	Friday	3.5.Analysis of tension member	1	
28/10/2022		Friday	3.6.Analysis of tension member	1		
29/10/2022		Saturday	3.7.Design of tension members	1		
			3.8.Design of tension members	1		
02/11/2022		Wednesday				
NOVEMBER	1ST WEEK	04/11/2022	Friday	3.8.Design considering strength only	1	
				3.9.Design considering concept of block shear failure	1	
		04/11/2022	Friday			
				3.10.Design considering concept of block shear failure	1	
		05/11/2022	Saturday			
	2ND WEEK			CHAPTER-4-Design of steel compression members.		
		09/11/2022	Wednesday	4.1.common shapes of compression members	1	
		04/12/2021	Saturday	4.2.Buckling class of cross sections	1	
		11/11/2022	Friday	4.2.Bulking class of section		
		11/11/2022	Friday	4.3.Slenderness ratio	1	
		12/11/2022	Saturday	4.4.Design of compressive stress	1	
		3RD WEEK	16/11/2022	Wednesday	4.5.Design of compressive stress	1
			18/11/2022	Friday	4.6.Design strength of compression members	1
			18/11/2022	Friday	4.7.Design strength of compression member	1
	19/11/2022		Saturday	4.8.Analysis of compression member	1	
	23/11/2022		Wednesday	4.9.Design of compression members	1	
	4TH WEEK	25/11/2022	Friday	4.10.Design of compression members	1	
				5.CHAPTER-5-Design of steel beams(10P)		
25/11/2022		Friday	5.1.common cross sections	1		
26/11/2022		Saturday	Classification of steel cross section	1		
5TH WEEK		30/11/2022	Wednesday	5.3.Classification of steel cross section	1	
				5.4.Deflection limits	1	
DECEMBER	1ST WEEK	02/12/2022	Friday	5.5.Web buckling	1	
		02/12/2022	Friday	5.6.web crippling	1	
		03/12/2022	Saturday			
				5.7.Design of laterally supported beam against bending	1	
		07/12/2022	Wednesday			
		09/12/2022	Friday	5.8. Design of laterally supported beam against bending	1	
		09/12/2022	Friday	5.9.Design of laterally supported beam against shear	1	

BER	2ND WEEK	10/12/2022	Saturday	5.10.Design of laterally supported beam against shear	1
				CHAPTER-6-Design of Tubular steel structure(6P)	
		14/12/2022	Wednesday	6.1.Round tubular sections	1
		16/12/2022	Friday	6.2.permissible stresses	1
		16/12/2022	Friday	6.3.Permissible stresses	1
	3RD WEEK	17/12/2022	Saturday	6.4.Tubular compression members	1
	4TH WEEK	21/12/2022	Wednesday	6.5. Tubular tension members	1
				6.6.Joints in Tubular trusses	1
				CHAPTER-7-Design of Masonry structures (9P)	
				7.1.Design consideration of masonry walls	1
				7.2.Design consideration of masonry walls	1
				7.3.Design consideration of masonry columns	1
				7.4.Design consideration of masonry columns	1
				7.5. Load bearing and non-load bearing walls	1
			7.6. Permissible stresses	1	
			7.7.Slenderness ratio	1	
			7.8.Effective length	1	
		EXTRA CLASS	7.9.Effective height and effective thickness	1	