

MEHRAN UNIVERSITY OF ENGINEERING AND TECHNOLOGY JAMSHORO Department of Civil Engineering

LESSON PLAN

COURSE INSTRUCTER: Engr. Fahad Shaikh (A+B+C) Batch 22CE (A+B+C) Semester: 5 th Semester Starting Date: 09-12-2024 Semester Suspension Date: 18-04-2023 COURSE LEARNING OUTCOMES: COURSE LEARNING OUTCOMES: Description Taxonomy level Associated PLO 1 SOLVE beams, frames and trusses for deflections and slopes in determinate and indeterminate structures. C3 3 2 ANALYZE the structures by modern analytical methods C4 2 LESSON CONTENTS AND ASSOCIATED CLO(s) Contents CL 0 No. Marks Assigned Delivery Methods Assessment Methods (Mark Introduction -Determinate and indeterminate structures -Degree of indeterminate structures -Deg	COURSE TITLE:COURSE COURSE COURSEStructural AnalysisCE306			ODE:		CREDIT HOURS: 0.		UM CONTACT : 48	
COURSE LEARNING OUTCOMES: CLO Description Taxonomy level Associated PLO 1 SOLVE beams, frames and trusses for deflections and slopes in determinate and indeterminate structures. C3 3 2 ANALYZE the structures by modern analytical methods C4 2 LESSON CONTENTS AND ASSOCIATED CLO(s) Contents CL O No. Marks Assigned Delivery Methods Assessment Methods (Mark Methods (Mark Introduction - Determinate and indeterminate structures - Degree of indeterminacy in beams, frames and trusses Marks - Determinate Structures O Class - Lecture • Mid semester Exam (30) • Class - Lecture • Mid semester Exam (30) • Class - Lecture • Mid semester Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Exam (30) • Class - Lecture • Mid semester - Log(5) • Assignment - (05) • Mid semester - Log(5) • Assignment - Log(5) • Mid semester - Log(5) • Mid semester - Log(5) • Mid	COURSI	E INSTRUC	TER: Engr. Fa	had Shaikh (A+B+C)					
CLO No.DescriptionTaxonomy levelAssociated PLO1SOLVE beams, frames and trusses for deflections and slopes in determinate and indeterminate structures.C332ANALYZE the structures by modern analytical methodsC42LESSON CONTENTS AND ASSOCIATED CLO(s)ContentsCL O No.Marks AssignedDelivery MethodsAssessment Methods (MarkIntroduction - Determinate and indeterminate structures - Degree of indeterminacy in beams, frames and trussesNo.Marks AssignedDelivery MethodsAssessment Methods (MarkIntroduction - Determinate and indeterminate structures - Degree of indeterminacy in beams, frames and trussesImage: Class Conjugate beam Unit load method and theory of Castiglione. - Frames: Unit load, Moment area method and movement of joints140Class Lecture • Discussion• Class Class Conjugate beam Unit load, Moment area method and movement of joints• Assignment-I (05)	e				ate: 09-12-2024 Semester Suspension Date: 18-0				
No. Description level PLO 1 SOLVE beams, frames and trusses for deflections and slopes in determinate and indeterminate structures. C3 3 2 ANALYZE the structures by modern analytical methods C4 2 LESSON CONTENTS AND ASSOCIATED CLO(s) Contents CL O No. Marks Assigned Delivery Methods Assessment Methods (Mark Introduction -Determinate and indeterminate structures -Degree of indeterminacy in beams, frames and trusses Mid semester Exam (30)	COURS	E LEARNII	NG OUTCOMI	ES:					
determinate and indeterminate structures. C 2 ANALYZE the structures by modern analytical methods C4 2 LESSON CONTENTS AND ASSOCIATED CLO(s) Contents CL O No. Marks Assigned Delivery Methods Assessment Methods (Mark Introduction -Determinate and indeterminate structures -Degree of indeterminate structures - - - - Mid semester Exam (30) - Class Lecture - Mid semester Exam (30) - Class Class Test-I (05) - Class Test-I (05) - <td< td=""><td></td><td colspan="3">Description</td><td colspan="3"></td><td></td><td></td></td<>		Description							
Contents CL O No. Marks Assigned Delivery Methods Assessment Methods (Mark Introduction -Determinate and indeterminate structures -Degree of indeterminacy in beams, frames and trusses -Determinate Structures -Degree of indeterminacy in beams, frames and trusses - - Marks Assigned Methods Methods (Mark Determinate Structures -Degree of indeterminacy in beams, frames and trusses -	1							C3	3
ContentsCL O No.Marks AssignedDelivery MethodsAssessment Methods (MarkIntroduction - Determinate and indeterminate structures - Degree of indeterminacy in beams, frames and trussesImage: Conjugate beam unit load method and theory of Castiglione.Image: Conjugate beam unit load method and theory of Castiglione.Image: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load, Moment area method and movement of jointsImage: Conjugate beam unit load method and movement of jointsImage: Conjugate beam unit load method and movement of jointsImage: Conjugate beam unit load method and movement of jointsImage: Conjugate beam unit load method and movement of jointsImage: Conjugate beam unit load method and movement of jointsImage: Conjugate beam unit load method and movement of jointsImage	2							C4	2
-Determinate and indeterminate structures -Degree of indeterminacy in beams, frames and trussesMid semester Exam (30)Determinate Structures -Beams: Double integration, Moment area, Conjugate beam Unit load method and theory of Castiglione. - Frames: Unit load, Moment area method and movement of joints140•Class Lecture • Discussion•Class (05)140••Class Lecture • Discussion•Class (05)•Class (05)			Contents		0			-	
and angle weight method.	-D(eterminate an egree of inde			INO.				

Indet	erminate structures							
in re	Consistent deformation method: standeterminate beams /frames of one and edundant. Laws of reciprocal deflections	tically 1 two						
-]	Theorem of least work							
th	Three Moment Theorem: Derivation on neorem and application to statically indeterminations							
eo fr	Method of Slope Deflection: Derivation quation, Analysis of continuous beams and rames without joint movement/with novement		1	45		 Class Lect Disc 		 Class test-II (05) Final Exam (40)
	Analysis of continuous beams and portal fran ue to yielding of supports	nes						
	Moment Distribution Method Concept, distril nd carryover factors	bution						
W -/	Analysis of continuous beams and portal fran vithout joint movement/with joint movement. Analysis of continuous beams and portal fran ue to yielding of supports.							
	lo. of Lectures: 20							
Matr	ix Stiffness Method.							
	-Introduction to Matrix Stiffness Method							
	 -Methods of formation of element stiffness matrix for truss, beam and frame element. -Deformation transformation matrix, Structures stiffness matrix for truss, beam and frame elements. 		ictures 2	15		• Class		• Class test -
						LectDisc	ture cussion	III (05) • Assignment- II (10)
	-Analysis of indeterminate structure stiffness method.	using						
	No. of Lectures: 08							
S.No	Assessment Activities	Marl	ks	Activities		CLO(s) to be assessed		
1	Class Tost/Assimument/Ori-	30		Assignment(s)		2	1,2	
1	Class Test/Assignment/Quiz			Class test(s)		3	1,2	
2	Mid Semester Exam	30		1			1	
3	Final Semester Exam	40		1			1	

Prepared by: Engr. Fahad Ali Shaikh	Reviewed by: Curriculum Review Committee	Approved by: Chairman, CED
	P.	Liennen
Dated: 09-12-2024	Signature:	Signature:
	Dated: 20-12-2024	Dated: 20-12-2024