

Curriculum

M. Tech Structural Engineering

Version 1.03

School of Civil Engineering

(2018 – 2020 Onwards)



GALGOTIAS UNIVERSITY

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

Plot No.: 2, Sector: 17 A, Yamuna Expressway, Gautam Budh Nagar, UP (India) 203201

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CURRICULUM

Break down of Credits

S. No	Category	Total number of Credits
1	University Core	7
2	Program Core	50
3	Program Elective	15
	Total Credits Offered	72

Break down by Categories of Courses

S. No.	Category	Credits	%
1	Engineering	66	91.6
2	Sciences	4	5.6
3	Humanities & Social Sciences	2	2.8
	Total	72	100

List of University Core Courses

S. No.	Course Code	Course Title	L	T	P	C	Pre-requisite/ Exposure	Category	Version
1	CENG5001	Professional and Communication Skills	0	0	4	2	-	Humanities	1.0
2	MAT5001	Advanced Numerical and Statistical Methods	3	1	0	4	Matrices and Calculus	Science	1.0
3	MSTR7002	Seminar (or) Mini Project	-	-	2	1	-	Engineering	1.0
			-	-	2	1			

Program Core

S. No.	Course Code	Course Title	L	T	P	C	Pre-requisite/ Exposure	Category	Version
1	MSTR5001	Structural Dynamics	3	0	0	3	-	Engineering	1.02
2	MSTR5002	Matrix Methods of Structural Analysis	3	0	0	3	-	Engineering	1.02
3	MSTR5003	Advanced Concrete Technology	3	0	0	3	-	Engineering	1.02
4	MSTR5004	Design of Concrete Structural Systems	3	0	0	3	-	Engineering	1.02
5	MSTR6001	Finite Element Analysis	3	0	0	3	-	Engineering	1.02
6	MSTR6002	Theory of Elasticity and Plasticity	3	0	0	3	-	Engineering	1.02
7	MSTR6003	Limit State Design of Steel Structures	3	0	0	3	-	Engineering	1.02
8	MSTR7001	Application of Numerical Methods in Structural Engineering	3	0	0	3	-	Engineering	1.02
9	MSTR5005	Matrix methods of Structural Analysis Lab (STAAD PRO)	0	0	2	1	-	Engineering	1.02
10	MSTR5006	Design of Concrete and Structural Systems Lab (STAAD PRO)	0	0	2	1	-	Engineering	1.02
11	MSTR6004	Structural Engineering lab (CASTING)	0	0	2	1	-	Engineering	1.02
12	MSTR6005	Finite Element Analysis Lab (STAAD PRO)	0	0	2	1	-	Engineering	1.02
13	MSTR7003	Comprehensive Examination	-	-	-	2	-	Engineering	1.02

14	MSTR7004	Project (Phase I)	0	0	0	5	-	Engineering	1.02
15	MSTR8001	Project (Phase II)	0	0	0	15	-	Engineering	1.02

Program Electives (Credits to be earned 15)

S. No.	Course Code	Course Title	L	T	P	C	Pre-requisite/ Exposure	Category	Version
1	MSTR6010	Advanced Foundation Engineering	3	0	0	3	-	Engineering	1.02
2	MSTR6011	Design of Concrete Bridges	3	0	0	3	-	Engineering	1.02
3	MSTR6012	Design of Industrial Structures	3	0	0	3	-	Engineering	1.02
4	MSTR6013	Earthquake Resistant Design	3	0	0	3	-	Engineering	1.02
5	MSTR6014	Design of Tall Buildings	3	0	0	3	-	Engineering	1.02
6	MSTR6015	Energy Efficient Buildings	3	0	0	3	-	Engineering	1.02
7	MSTR6016	Environmental Engineering Structures	3	0	0	3	-	Engineering	1.02
8	MSTR6017	Experimental Stress Analysis	3	0	0	3	-	Engineering	1.02
9	MSTR6018	Machine Foundations	3	0	0	3	-	Engineering	1.02
10	MSTR6019	Maintenance & Rehabilitation of Structures	3	0	0	3	-	Engineering	1.02
11	MSTR6020	Theory and Design of Plates & Shells	3	0	0	3	-	Engineering	1.02
12	MSTR6021	Off Shore Structures	3	0	0	3	-	Engineering	1.02
13	MSTR6022	Prefabricated Structures	3	0	0	3	-	Engineering	1.02
14	MSTR6023	Pre-stressed Concrete Structures	3	0	0	3	-	Engineering	1.02
15	MSTR6024	Soil Structure Interaction	3	0	0	3	-	Engineering	1.02
16	MSTR6025	Stability of Structures	3	0	0	3	-	Engineering	1.02
17	MSTR6026	Structural Optimization	3	0	0	3	-	Engineering	1.02
18	MSTR6027	Composite Structures	3	0	0	3	-	Engineering	1.02

SEMESTER WISE COURSE STRUCTURE

First Semester

S. No.	Course Code	Course Title	L	T	P	C	Category	Version	Course Prerequisite
1	CENG5001	Professional and Communication Skills	0	0	4	2	Humanities	1.02	-
2	MATH5001	Advanced Numerical and Statistical Methods	3	1	0	4	Science	1.02	-
3	MSTR5001	Structural Dynamics	3	0	0	3	Engineering	1.02	-
4	MSTR5002	Matrix Methods of Structural Analysis	3	0	0	3	Engineering	1.02	-
5	MSTR5003	Advanced Concrete Technology	3	0	0	3	Engineering	1.02	-
6	MSTR5004	Design of Concrete Structural Systems	3	0	0	3	Engineering	1.02	-
7	MSTR5005	Matrix methods of Structural Analysis Lab (STAAD PRO)	0	0	2	1	Engineering	1.02	-
8	MSTR5006	Design of Concrete and Structural Systems Lab (STAAD PRO)	0	0	2	1	Engineering	1.02	-

Total Credit = 20

Second Semester

S. No.	Course Code	Course Title	L	T	P	C	Category	Version	Course Prerequisite
1	MSTR6001	Finite Element Analysis	3	0	0	3	Engineering	1.02	-
2	MSTR6002	Theory of Elasticity and Plasticity	3	0	0	3	Engineering	1.02	-
3	MSTR6003	Limit State Design of Steel Structures	3	0	0	3	Engineering	1.02	-
4		Elective - 1	3	0	0	3	Engineering	1.02	-
5		Elective – 2	3	0	0	3	Engineering	1.02	-
6		Elective - 3	3	0	0	3	Engineering	1.02	-
7	MSTR6004	Structural Engineering lab (CASTING)	0	0	2	1	Engineering	1.02	-
8	MSTR6005	Finite Element Analysis Lab (STAAD PRO)	0	0	2	1	Engineering	1.02	-

Total Credit = 20

Third Semester

S. No.	Course Code	Course Title	L	T	P	C	Category	Version	Course Prerequisite
1	MSTR7001	Application of Numerical Methods in Structural Engineering	3	0	0	3	Engineering	1.02	-
2		Elective – 4	3	0	0	3	Engineering	1.02	-
3		Elective – 5	3	0	0	3	Engineering	1.02	-
4	MSTR7002	Seminar (or) Mini Project	-	-	2	1	Engineering	1.02	-
5	MSTR7003	Comprehensive Examination	-	-	-	2	Engineering	1.02	-
6	MSTR7004	Project (Phase I)	0	0	0	5	Engineering	1.02	-

Total Credit = 17

Fourth Semester

S. No.	Course Code	Course Title	L	T	P	C	Category	Version	Course Prerequisite
1	MSTR8001	Project (Phase II)	0	0	0	15	Engineering	1.02	-

Total Credit=15

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