

Walchand College of Engineering

(Government Aided Autonomous Institute)

Vishrambag, Sangli. 416415



***** Platinum Jubilee Year *****

**Credit System for
S.Y. M.Tech. (Structural Engineering)
Sem-III and IV**

2021-22



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Credit System for S.Y. M.Tech. (Structural Engineering) Sem-III AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
Professional Core (Theory)												
1	PC	5ST601	Legal, Financial aspects of Industrial Project	2	0	0	0	2	2	20	20	60
Professional Core (Lab)												
2	PR	5ST690	Dissertation Phase 1	0	0	20	0	20	10	30	30	40
3	PC	5ST602	Industry Orientation Course	0	0	0	1	1	1	30	30	40
Professional Elective (Theory)												
4	PE	Refer list	Elective 5	2	0	0	0	2	2	20	20	60
Professional Elective (Lab)												
5	PR	Refer list	Activity Based Elective Lab 2	0	0	2	0	2	1	30	30	40
Value Added Professional Courses # (Listed separately)												
--												
Value Added Life-Skill Courses # (Listed separately)												
--												
Total				4	0	22	1	27	16			



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Elective Course List for S.Y. M.Tech. (Structural Engineering) Sem-III AY 2021-22

Sr.No.	Track	Course Code	Course Name
Activity Based Elective Lab 2			
1	Advanced design of structures	5ST651	Design of Foundation on Soft Soil Lab
2	Advanced structural analysis and computa	5ST652	Optimizatin Technique for Numerical Simulation Lab
3	Advanced design of structures	5ST653	Design of Prestressed components Lab
4	Advanced design of structures	5ST654	Advances in Concrete Composites Lab
Elective 5			
1	Advanced design of structures	5ST611	MOOC Course
2	Advanced structural analysis and computa	5ST612	Design Optimization
3	Advanced design of structures	5ST613	Advanced Prestressed Concrete
4	Advanced design of structures	5ST614	Advances in Concrete Composites

Notes:

For Lab courses: There shall be only internal continuous assessment (LA1, LA2, ESE). LA1 and LA2 together shall be Lab ISE. The ESE is a separate head of passing.

For Theory courses: There shall be two tests (T1 and T2) and one ESE. The ESE is a separate head of passing.

The Value Added Courses are Optional Courses. The mode of teaching (LTPI) is decided by the resource person.

The credits earned from these courses will be shown on grade card. For SGPA and CGPA calculation, these courses will be excluded.

The list of Value added courses will be updated from time to time. The courses may be on paid basis. These courses will be offered as per availability of faculty.

The contact hours of each dissertation with the guide (research supervisor) shall be of one hour per week.

For further details, refer to Academic and Examination rules and regulations.



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Credit System for S.Y. M.Tech. (Structural Engineering) Sem-IV AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
Professional Core (Theory)												
--												
Professional Core (Lab)												
1	PR	5ST691	Dissertation Phase 2	0	0	24	0	24	12	30	30	40
2	PR	5ST671	Techno-Socio Activity	0	0	0	1	1	1	30	30	40
Professional Elective (Theory)												
3	PE	Refer list	Elective 6	3	0	0	0	3	3	20	20	60
Value Added Professional Courses # (Listed separately)												
--												
Value Added Life-Skill Courses # (Listed separately)												
--												
Total				3	0	24	1	28	16			



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Elective Course List for S.Y. M.Tech. (Structural Engineering) Sem-IV AY 2021-22

Sr.No.	Track	Course Code	Course Name
Elective 6			
1	Advanced structural analysis and computa	5ST621	MOOC course
2	Advanced design of structures	5ST622	Design of Tall Structure
3	Advanced design of structures	5ST623	MOOC Course

Notes:

For Lab courses: There shall be only internal continuous assessment (LA1, LA2, ESE). LA1 and LA2 together shall be Lab ISE. The ESE is a separate head of passing.

For Theory courses: There shall be two tests (T1 and T2) and one ESE. The ESE is a separate head of passing.

The Value Added Courses are Optional Courses. The mode of teaching (LTPI) is decided by the resource person.

The credits earned from these courses will be shown on grade card. For SGPA and CGPA calculation, these courses will be excluded.

The list of Value added courses will be updated from time to time. The courses may be on paid basis. These courses will be offered as per availability of faculty.

@ Minimum two AICTE mandatory courses need to be completed for award of degree.

The contact hours of each dissertation with the guide (research supervisor) shall be of one hour per week.

For further details, refer to Academic and Examination rules and regulations.



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Tracks and Semester-wise Elective Courses for M.Tech. (Structural Engineering) AY 2021-22

Sr.No.	Sem	Elective	Course Code	Course Name
1	Activity Based Elective			
Advanced design of structures				
1	1	Elective 1	5ST512	Advanced Design of Steel Structures
2	1	Elective 2	5ST513	Advanced Design of Reinforced Concrete Structures
3	2	Elective 3	5ST523	Advanced Earthquake Engineering
4	2	Elective 4	5ST525	Analysis and Design of Bridges
5	Activity Based Elective		5ST575	Seismic Design of Multistoried Building Lab
6	Activity Based Elective		5ST577	Design of Bridge Components Lab
7	3	Elective 5	5ST611	MOOC Course
8	3	Elective 5	5ST613	Advanced Prestressed Concrete
9	3	Elective 5	5ST614	Advances in Concrete Composites
10	Activity Based Elective		5ST651	Design of Foundation on Soft Soil Lab
11	Activity Based Elective		5ST653	Design of Prestressed components Lab
12	Activity Based Elective		5ST654	Advances in Concrete Composites Lab
13	4	Elective 6	5ST622	Design of Tall Structure
14	4	Elective 6	5ST623	MOOC Course
Advanced structural analysis and computa				
1	1	Elective 1	5ST511	Structural Dynamics and Earthquake Engineering
2	1	Elective 2	5ST514	Computer Aided Analysis and Design
3	2	Elective 3	5ST524	Numerical Methods in Structural Engineering
4	2	Elective 4	5ST526	Theory of plate and shell
5	Activity Based Elective		5ST576	Numerical Methods for Linear and Nonlinear Systems Lab
6	Activity Based Elective		5ST578	Design of roof Using Plate and Shell Lab
7	3	Elective 5	5ST612	Design Optimization
8	Activity Based Elective		5ST652	Optimizatin Technique for Numerical Simulation Lab
9	4	Elective 6	5ST621	MOOC course



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

List of Professional Core (Theory) Courses for M.Tech. (Structural Engineering) AY 2021-22

Sr.No.	Sem	Course Code	Course Name
Professional Core (Theory) Courses			
1	1	5ST501	Mechanics of Structures
2	1	5ST502	Theory of Elasticity and Plasticity
3	2	5ST521	Structural Health Monitoring and Retrofitting
4	2	5ST522	Finite Element Method
5	3	5ST601	Legal, Financial aspects of Industrial Project



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

List of Professional Core (Lab) Courses for M.Tech. (Structural Engineering) AY 2021-22

Sr.No.	Sem	Course Code	Course Name
Professional Core (Lab) Courses			
1	1	5ST560	Research Methodology
2	1	5ST551	Activity Based Lab for Th course 1
3	1	5ST552	Activity Based Lab for Th course 2
4	1	5ST553	Presentation and Technical Report Writing
5	1	5ST554	Professional Skills 1
6	2	5ST571	Activity Based Lab for Th course -3
7	2	5ST572	Activity Based Lab for Th course -4
8	2	5ST573	Industrial Project
9	2	5ST574	Professional Skills 2
10	3	5ST690	Dissertation Phase 1
11	3	5ST602	Industry Orientation Course
12	4	5ST691	Dissertation Phase 2
13	4	5ST671	Techno-Socio Activity



Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Open Electives offered by M.Tech. (Structural Engineering) to other programmes AY 2021-22

Sr.No.	Offering Dept	Sem	Course Code	Course Name
Open Electives Offered				
1	Civil_Struct	2	5OE102	Structural Health Monitoring



Walchand College of Engineering, Sangli
(Government Aided Autonomous Institute)

Open Electives available from other programmes to M.Tech. (Structural Engineering) AY 2021-22

Sr.No.	Offering Dept	Sem	Course Code	Course Name
Open Electives Available				
1	Civil_Env	2	5OE101	Solid Waste Management
2	Mech_Prod	2	5OE103	Advanced Production systems
3	Mech_Heat	2	5OE104	Waste to Energy
4	Mech_Design	2	5OE105	Industrial Product Design
5	Elect_Power	2	5OE106	Control Techniques for Electrical Drives
6	Elect_Control	2	5OE106	Control Techniques for Electrical Drives
7	Eln	2	5OE108	Introduction to Embedded Systems
8	CSE	2	5OE109	Machine Learning in Practice
9	IT	2	5OE110	Machine Learning & Applications