

# Walchand College of Engineering

*(Government Aided Autonomous Institute)*

Vishrambag, Sangli. 416415



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

**Credit System for  
F.Y. M.Tech. (Structural Engineering)  
Sem-I and II**

**2021-22**



# Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

## Credit System for F.Y. M.Tech. (Structural Engineering) Sem-I AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
<b>Professional Core (Theory)</b>												
1	PC	5ST501	Mechanics of Structures	3	0	0	0	3	3	20	20	60
2	PC	5ST502	Theory of Elasticity and Plasticity	3	0	0	0	3	3	20	20	60
<b>Professional Core (Lab)</b>												
3	PC	5ST560	Research Methodology	0	0	0	2	2	2	30	30	40
4	PR	5ST551	Activity Based Lab for Th course 1	0	0	2	0	2	1	30	30	40
5	PR	5ST552	Activity Based Lab for Th course 2	0	0	2	0	2	1	30	30	40
6	HS	5ST553	Presentation and Technical Report Writing	0	0	0	1	1	1	30	30	40
7	PC	5ST554	Professional Skills 1	0	0	0	1	1	1	30	30	40
<b>Professional Elective (Theory)</b>												
8	PE	Refer list	Elective 1	3	0	0	0	3	3	20	20	60
9	PE	Refer list	Elective 2	3	0	0	0	3	3	20	20	60
<b>AICTE Mandatory Courses @</b>												
10	MC	5IC501	Value Education	2	0	0	0	2	0	20	20	60
<b>Value Added Professional Courses # (Listed separately)</b>												
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<b>Value Added Life-Skill Courses # (Listed separately)</b>												
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<b>Total</b>				<b>14</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>22</b>	<b>18</b>			



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## Elective Course List for F.Y. M.Tech. (Structural Engineering) Sem-I AY 2021-22

Sr.No.	Track	Course Code	Course Name
<b>Elective 1</b>			
1	Advanced structural analysis and computa	5ST511	Structural Dynamics and Earthquake Engineering
2	Advanced design of structures	5ST512	Advanced Design of Steel Structures
<b>Elective 2</b>			
1	Advanced design of structures	5ST513	Advanced Design of Reinforced Concrete Structures
2	Advanced structural analysis and computa	5ST514	Computer Aided Analysis and Design

### 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.

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



# Walchand College of Engineering, Sangli

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## Credit System for F.Y. M.Tech. (Structural Engineering) Sem-II AY 2021-22

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	T1/LA1	T2/LA2	ESE
<b>Professional Core (Theory)</b>												
1	PC	5ST521	Structural Health Monitoring and Retrofitting	3	0	0	0	3	3	20	20	60
2	PC	5ST522	Finite Element Method	3	0	0	0	3	3	20	20	60
<b>Professional Core (Lab)</b>												
3	PR	5ST571	Activity Based Lab for Th course -3	0	0	2	0	2	1	30	30	40
4	PR	5ST572	Activity Based Lab for Th course -4	0	0	2	0	2	1	30	30	40
5	PR	5ST573	Industrial Project	0	0	0	2	2	2	30	30	40
6	PC	5EST574	Professional Skills 2	0	0	0	1	1	1	30	30	40
<b>Professional Elective (Theory)</b>												
7	PE	Refer list	Elective 3	2	0	0	0	2	2	20	20	60
8	PE	Refer list	Elective 4	2	0	0	0	2	2	20	20	60
<b>Professional Elective (Lab)</b>												
9	PR	Refer list	Activity Based Elective Lab 1	0	0	2	0	2	1	30	30	40
<b>Open Elective</b>												
10	OE	Refer list	Open Elective	2	0	0	0	2	2	20	20	60
<b>AICTE Mandatory Courses @</b>												
11	MC	5IC502	Constitution of India	2	0	0	0	2	0	20	20	60
<b>Value Added Professional Courses # (Listed separately)</b>												
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<b>Value Added Life-Skill Courses # (Listed separately)</b>												
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<b>Total</b>				<b>14</b>	<b>0</b>	<b>6</b>	<b>3</b>	<b>23</b>	<b>18</b>			



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## Elective Course List for F.Y. M.Tech. (Structural Engineering) Sem-II AY 2021-22

Sr.No.	Track	Course Code	Course Name
<b>Activity Based Elective Lab 1</b>			
1	Advanced design of structures	5ST575	Seismic Design of Multistoried Building Lab
2	Advanced structural analysis and computa	5ST576	Numerical Methods for Linear and Nonlinear Systems Lab
3	Advanced design of structures	5ST577	Design of Bridge Components Lab
4	Advanced structural analysis and computa	5ST578	Design of roof Using Plate and Shell Lab
5			
<b>Elective 3</b>			
1	Advanced design of structures	5ST523	Advanced Earthquake Engineering
2	Advanced structural analysis and computa	5ST524	Numerical Methods in Structural Engineering
<b>Elective 4</b>			
1	Advanced design of structures	5ST525	Analysis and Design of Bridges
2	Advanced structural analysis and computa	5ST526	Theory of plate and shell



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## Open Elective Course List for F.Y. M.Tech. (Structural Engineering) Sem-II AY 2021-22

Sr.No.	Offering Dept	Sem	Course Code	Course Name
<b>Open Elective 1</b>				
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

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