Walchand College of Engineering

(Government Aided Autonomous Institute)

Vishrambag, Sangli. 416415

*** Platinum Jubilee Year ***

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

2021-22

Walchand College of Engineering, Sangli

(Government Aided Autonomous Institute)

Credit System for F.Y. M.Tech. (Design Engineering) Sem-I 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	5DE501	Advanced Stress Analysis	3	0	0	0	3	3	20	20	60
2	PC	5DE502	Advanced Vibrations and Acoustics	3	0	0	0	3	3	20	20	60
Professional Core (Lab)												
3	PC	5DE560	Research Methodology	0	0	0	2	2	2	30	30	40
4	PR	5DE551	Activity Based Lab for Th course 1	0	0	2	0	2	1	30	30	40
5	PR	5DE552	Activity Based Lab for Th course 2	0	0	2	0	2	1	30	30	40
6	HS	5DE553	Presentation and Technical Report Writing	0	0	0	1	1	1	30	30	40
7	PC	5DE554	Professional Skills 1	0	0	0	1	1	1	30	30	40
Professional Elective (Theory)												
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
AICTE Mandatory Courses @												
10	MC	5IC501	Value Education	2	0	0	0	2	0	20	20	60
Value Added Professional Courses # (Listed separately)												
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Value Added Life-Skill Courses # (Listed separately)												
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			Total	**14**	**0**	**4**	**4**	**22**	**18**			

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

Sr.No.	Track	Course Code	Course Name
Elective 1			
1	Design of Machines and Products	5DE511	Advanced Machine Design
2	Mathematical Modelling	5DE512	Mathematical Methods in Engineering
3	Design of Machines and Products	5DE513	Reliability Engineering
Elective 2			
1	Materials	5DE514	Mechanics of Composite Materials
2	Stress Analysis	5DE515	Analysis and Synthesis of Mechanisms
3	Design of Machines and Products	5DE516	Process Equipment 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.

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Credit System for F.Y. M.Tech. (Design Engineering) Sem-II 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	5DE521	Finite Element Method	3	0	0	0	3	3	20	20	60
2	PC	5DE522	Computer Aided Design	3	0	0	0	3	3	20	20	60
			Professional Core (Lab)									
3	PR	5DE571	Activity Based Lab for Th course 3	0	0	2	0	2	1	30	30	40
4	PR	5DE572	Activity Based Lab for Th course 4	0	0	2	0	2	1	30	30	40
5	PR	5DE573	Industrial Project	0	0	0	2	2	2	30	30	40
6	PC	5DE574	Professional Skills 2	0	0	0	1	1	1	30	30	40
			Professional Elective (Theory)									
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
			Professional Elective (Lab)									
9	PR	Refer list	Activity Based Elective Lab 1	0	0	2	0	2	1	30	30	40
			Open Elective									
10	OE	Refer list	Open Elective	2	0	0	0	2	2	20	20	60
			AICTE Mandatory Courses @									
11	MC	5IC502	Constitution of India	2	0	0	0	2	0	20	20	60
			Value Added Professional Courses # (Listed separately)									
			--									
			Value Added Life-Skill Courses # (Listed separately)									
			--									
			Total	**14**	**0**	**6**	**3**	**23**	**18**			

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

Sr.No.	Track	Course Code	Course Name
Activity Based Elective Lab 1		
1	Vibration Analysis	5DE575	Tribology in Design Lab
2	Design of Machines and Products	5DE576	Robotics Lab
3	Stress Analysis	5DE577	Fracture Mechanics Lab
4	Materials	5DE578	Advanced Metallurgy Lab
5	Vibration Analysis	5DE579	Condition Based Monitoring Lab
6	Mathematical Modelling	5DE580	Optimization Techniques in Design Lab
Elective 3		
1	Vibration Analysis	5DE523	Tribology in Design
2	Design of Machines and Products	5DE524	Robotics
3	Stress Analysis	5DE525	Fracture Mechanics
Elective 4		
1	Materials	5DE526	Advanced Metallurgy
2	Vibration Analysis	5DE527	Condition Based Monitoring
3	Mathematical Modelling	5DE528	Optimization Techniques in Design

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

Sr.No.	Offering Dept	Sem	Course Code	Course Name
			Open Elective 1	
1	Civil_Env	2	5OE101	Solid Waste Management
2	Civil_Struct	2	5OE102	Structural Health Monitoring
3	Mech_Prod	2	5OE103	Advanced Production systems
4	Mech_Heat	2	5OE104	Waste to Energy
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

Notes:

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   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.

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