

# **Walchand College of Engineering**

*(Government Aided Autonomous Institute)*

Vishrambag, Sangli-416415



**Credit System for  
F. Y. M. Tech. Electrical (Control System Engineering)**

**Semester-I and II**

**2023-24**



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

**Credit System for F. Y. M. Tech. Electrical (Control System Engineering) Sem-I AY 2023-24**

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	MSE/LA1	ISE/LA2	ESE	Remark	
<b>Professional Core (Theory)</b>														
1	PC	7IC501	Research Methodology and IPR	3	0	0	0	3	3	30	20	50		
2	PC	7CS501	Applied Digital Control	3	0	0	0	3	3	30	20	50		
3	PC	7CS502	Advanced Process Control	3	0	0	0	3	3	30	20	50		
4	PC	7CS503	Optimal Control	3	0	0	0	3	3	30	20	50		
<b>Professional Core (Lab)</b>														
5	PC	7CS551	Applied Digital Control Lab	0	0	2	0	2	1	30	30	40		
6	PC	7CS552	Advanced Process Control Lab	0	0	2	0	2	1	30	30	40		
7	PC	7CS553	Optimal Control Lab	0	0	2	0	2	1	30	30	40		
<b>Professional Elective (Theory)</b>														
8	PE	Refer List	Professional Elective 1	3	0	0	0	3	3	30	20	50		
9	PE	Refer List	Professional Elective 2	3	0	0	0	3	3	30	20	50		
<b>Total</b>				<b>18</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>24</b>	<b>21</b>					

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Dean Academics  
Dean Academics Engg.  
Vishrambag, Sangli - 416 415



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

**Professional Elective Course List for F. Y. M. Tech. Electrical (Control System Engineering) Sem-I AY 2023-24**

Sr.No.	Track	Course Code	Course Name
<b>Professional Elective 1</b>			
1	Advanced Control Algorithms	7CS511	Advanced Digital Signal Processing
2	Process Modeling and Dynamics	7CS512	Multivariable Control
<b>Professional Elective 2</b>			
1	Advanced Control Algorithms	7CS513	System Identification
2	Advanced Control Algorithms	7CS514	Electric Vehicle Technology
3	Process Modeling and Dynamics	7CS515	Computational Methods
4	Process Modeling and Dynamics	7CS516	Robust Control

**Notes:**

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.

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

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

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Vishrambag, Sangli - 410 415



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

**Credit System for F. Y. M. Tech. Electrical (Control System Engineering) Sem-II AY 2023-24**

Sr.No.	Category	Course Code	Course Name	L	T	P	I	Hrs	Cr	MSE/LA1	ISE/LA2	ESE	Remark
<b>Professional Core (Theory)</b>													
1	PC	7CS521	PLC and Embedded Control	3	0	0	0	3	3	30	20	50	
2	PC	7CS522	Non-Linear Dynamical Systems	3	0	0	0	3	3	30	20	50	
3	PC	7CS523	Adaptive Control	3	0	0	0	3	3	30	20	50	
<b>Professional Core (Lab)</b>													
3	PC	7CS571	PLC and Embedded Control Lab	0	0	2	0	2	1	30	30	40	
4	PC	7CS572	Non-Linear Dynamical Systems Lab	0	0	2	0	2	1	30	30	40	
5	PR	7CS545	Seminar	0	0	2	0	2	1	30	30	40	
<b>Professional Elective (Theory)</b>													
6	PE	Refer List	Professional Elective 3	3	0	0	0	3	3	30	20	50	
7	PE	Refer List	Professional Elective 4	3	0	0	0	3	3	30	20	50	
<b>Open Elective</b>													
8	OE	Refer List	Open Elective	3	0	0	0	3	3	30	20	50	
				<b>Total</b>	<b>18</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>24</b>	<b>21</b>			

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

**Professional Elective Course List for F. Y. M. Tech. Electrical (Control System Engineering) Sem-II AY 2023-24**

Sr.No.	Track	Course Code	Course Name
<b>Professional Elective 3</b>			
1	Advanced Control Algorithms	7CS531	Modern Power Electronics
2	Process Modeling and Dynamics	7CS532	Robotics/ AI in Industrial Automation
<b>Professional Elective 4</b>			
1	Advanced Control Algorithms	7CS533	Neural Network and Fuzzy Control
2	Process Modeling and Dynamics	7CS534	Modern Signal Processing
3	Process Modeling and Dynamics	7CS535	High Performance Electric Drives

**Open Elective Course List for F. Y. M. Tech. Electrical (Control System Engineering) Sem-II AY 2023-24**

Sr.No.	Offering Programme	Course Code	Course Name
1	Environmental Engg.	7OE501	Solid Waste Management
2	Structural Engg.	7OE502	Structural Health Monitoring
3	Design Engg.	7OE503	Industrial Product Design
4	Heat Power Engg.	7OE504	Waste to Energy
5	Production Engg.	7OE505	Advanced Production systems
6	Power System Engg.*	7OE506	Control Techniques for Electrical Drives
7	Control System Engg.*	7OE506	Control Techniques for Electrical Drives
8	Electronics Engg.	7OE508	Introduction to Embedded Systems
9	Computer Science & Engg.	7OE509	Machine Learning in Practice
10	Information Technology	7OE510	Machine Learning & Applications

**Notes:**

Open Elective offered by Elect. (Control System Engineering) is allowed for students of all other departments (Except Control System and Power System Engg. Programme)

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.

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

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

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Date: