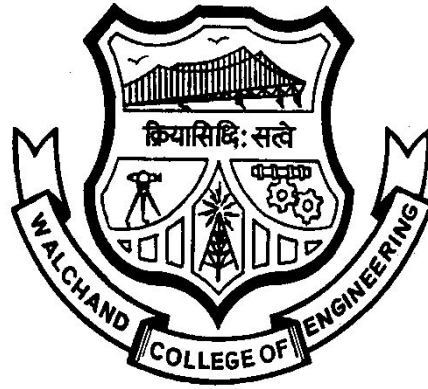


Walchand College of Engineering, Sangli

(An Autonomous Institute)



Curriculum (Structure)

for

B.Tech. Civil Engineering

Academic Year 2017-2018



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17

Second year B. Tech. Program in Civil Engineering

Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max	Min for Passing	
3MA201	Engineering Mathematics - III	3	1	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 201	Fluid Mechanics	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 202/ 3CV 203	Earth Science/ Advanced Geology*	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 204	Engineering Surveying	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3AM 201	Solid Mechanics	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 205	Building Materials and Construction	4	0	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 251	Fluid Mechanics Lab	0	0	2	1	ISE	50	20	
						ESE POE	50	20	
3CV 252	Building Materials and Construction Lab	0	0	2	1	ISE	50	20	
						ESE POE	50	20	
3CV 253	Surveying Lab	0	0	2	1	ISE	50	20	
						ESE POE	50	20	
3CV 254	Geology Lab	0	0	2	1	ISE	100	50	
Total		19	1	8	24	Total Credits: 24			
						Total Hours: 28			

* Only for the batch 2016-17



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17

Second year B. Tech. Program in Civil Engineering

Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max	Min for Passing	
3HS 201	Environmental Science	2	1	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 221	Hydraulics & Hydraulic Machinery	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 222	Building Planning & Design	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 223	Advanced Surveying	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 224	Water Resource Engineering	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3AM 221	Structural Mechanics I	3	1	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 271	Hydraulics Lab	0	0	2	1	ISE	50	20	
						ESE (OE)	50	20	
3CV 272	Building Planning Mini Project	0	0	2	1	ISE	50	20	
						ESE (POE)	50	20	
3AM 271	Solid Mechanics Lab	0	0	2	1	ISE	100	40	
3CV 273	Advanced Surveying Lab	0	0	2	1	ISE	50	20	
						ESE (POE)	50	20	
Total		17	2	8	23	Total Credits: 23			
						Total Hours: 27			



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17

Third year B. Tech. Program in Civil Engineering

Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max	Min for Passing	
1OE##	Open Elective I	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV301	Design of hydraulic structures	3	1	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3AM301	Design of Steel Structures	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV302	Water supply and Treatment Technology	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3AM302	Structural Mechanics -II	3	1	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV303	Soil Mechanics	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 351	Environmental Engineering Lab	0	0	2	1	ISE	50	20	
						ESE(POE)	50	20	
3CV 352	Soil Mechanics Lab	0	0	2	1	ISE	50	20	
						ESE (OE)	50	20	
3CV 341	Seminar	0	0	2	1	ISE	100		40
Total		18	2	6	23	Total Credits: 23;			
						Total Hours: 26			



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme effective from 2016-17

Third year B. Tech. Program in Civil Engineering Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Component	Marks		
							Max	Min for Passing	
1OE##	Open Elective II	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 321	Waste Management & Pollution Control	3	1	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 322	Foundation Engineering	3	1	0	4	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 323	Transportation Engineering- I	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 324	Estimating & Contracts	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3AM 321	Design Of Concrete Structure-I	3	0	0	3	ISE 1	10	20	40
						MSE	30		
						ISE 2	10		
						ESE	50		
3CV 371	Highway Engineering Lab	0	0	2	1	ISE	50	20	
						ESE(OE)	50	20	
3CV 342	Estimating & Costing (mini project)	0	0	2	1	ISE	50	20	
						ESE(OE)	50	20	
3AM 341	Steel Structures Design & Drawing (Mini Project)	0	0	2	1	ISE	50	20	
						ESE(OE)	50	20	
3CV37#/ 3AM37#	Laboratory Elective	0	0	2	1	ISE	100		40
Total		18	2	8	24	Total Credits: 24			
						Total Hours: 28			

List of Laboratory Elective courses

Course Codes	Course Name
3CV 381	Hydraulic Structures Lab
3CV 382	Foundation Engineering Lab
3CV 383	Advances in Environmental Engineering Lab
3CV 384	Remote Sensing and GIS Lab
3AM 381	Structural dynamics Lab
3AM 382	Advanced Structural design Lab
3AM 383	Concrete Technology Lab
3AM 384	Software Applications in structural design lab
3AM 385	Advanced Structural Analysis Lab

Open Elective I:		
Course Code	Course Name	Offered by Department
1OE 315	Remote Sensing & GIS, GPS	Civil
1OE 329	Manufacturing Engineering	Mechanical
1OE 330	Energy Engineering	Mechanical
1OE 331	Mechanisms and Machines	Mechanical
1OE 343	Electrical Machines	Electrical
1OE 357	Electronic Systems	Electronics
1OE 358	Fundamental of Analog and Digital Communication	Electronics
1OE 371	Software Engg. & Database Essentials	CSE
1OE 385	Internet of Things	IT

Open Elective II:		
Course Code	Course Name	Offered by Department
1OE 308	Machine Foundations	Civil-APM
1OE 309	Theory of Structures	Civil-APM
1OE 336	Power Plant Engineering	Mechanical
1OE 337	Fabrication Technology	Mechanical
1OE 338	Mechanical Power Transmission	Mechanical
1OE 350	Renewable Energy	Electrical
1OE 364	Embedded Programming	Electronics
1OE 365	Signal Processing and Foundation	Electronics
1OE 378	Data Analytics	CSE
1OE 392	Web Design & Applications	IT



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme from year 2017-18

Final year B. Tech. Program in Civil Engineering

Semester I

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Marks		
							Max	Min for Passing	
1OE***	Open Elective-III	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3AM401	Earthquake Engineering	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3AM402	Design of Concrete Structures-II	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3CV401	Engineering Economics & Valuation	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3CV402	Construction Project Management	4	0	0	4	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3CV# 3AM#	Professional Elective-I	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3AM451	Concrete Structures Design & Drawing- (Mini Project)	0	0	4	2	ISE	50	20	
						ESE (OE)	50	20	
3CV451	Construction Project Management (Mini Project)	0	0	2	1	ISE	50	20	
						ESE (OE)	50	20	
3CV491	Project -I	0	0	2*	4	ISE	50	20	
						ESE (OE)	50	20	
Total		19	0	8	26	Total Credits: 26			
						Total Hours: 27			

*Indicates contact hours per week per project batch of 8-10 students.



Walchand College of Engineering, Sangli

(An Autonomous Institute)

Teaching and Evaluation Scheme from year 2017-18

Final year B. Tech. Program in Civil Engineering Semester II

Course Code	Course	Teaching Scheme				Evaluation Scheme			
		L	T	P	Credits	Scheme	Marks		
							Max	Min for Passing	
3CV# 3AM#	Professional Elective-II	3	0	0	3	ISE-1	10	-	40
						MSE	30		
						ISE-2	10		
						ESE	50	20	
3CV492	Project -II	0	0	8*	8	ISE	50	20	
						ESE (OE)	50	20	
3CV493	Field Studies	-	-	1	1	ISE	100	40	
Total		3	0	9	12	Total Credits: 12			
		Total Hours: 12							

*Indicates contact hours per week per project batch of 8-10 students.

List of Professional Electives

Semester-I		Semester-II	
Course Code	Course Name	Course Code	Course Name
3AM 411	Advanced Structural Analysis	3AM 431	Design of Concrete Bridges
3AM 412	Computer Applications in Structural Engineering	3AM 432	Advanced Structural Design
3CV411	Maintenance and Rehabilitation of Structures	3CV431	Construction Practices
3CV412	Advanced Water and Wastewater Treatment	3CV432	Design of Unreinforced Masonry Structures
3CV413	Bridge and Airport Engineering	3CV433	Town and Country Planning
		3CV434	Remote Sensing & GIS

Open Elective III:

Course Code	Course Name	Offered by Department
1OE 401	Structural Health Monitoring	APM
1OE 402	Finite Element Method	APM
1OE 416	Concrete Engineering and Technology	Civil
1OE 417	Computational Methods and Optimization Techniques	Civil
1OE 429	Automobile Engineering	Mechanical
1OE 430	Energy Modeling and Management	Mechanical
1OE 431	Aerospace Engineering	Mechanical
1OE 443	Industrial Automation	Electrical
1OE 457	Cyber Physical Systems	Electronics
1OE 471	Business Intelligence	CSE
1OE 472	Ethical Hacking and Cyber Security	CSE
1OE 485	Data Visualization and Interpretation	IT