

SAVITRIBAI PHULE PUNE UNIVERSITY



First Year Engineering Credit System Syllabus 2015 Course



PRINCIPAL
Dr. Vithalrao Vikhe Patil
College of Engineering
Ahmednagar

\$: Mandatory subjects of first, second and third semester must include at least 40 credits for Engineering Physics, Engineering Chemistry, Engineering Mathematics, social science and soft skills
In addition to above credits, there should be audit courses in semester five, six and seven to develop the various skills.

The detail structure is given in Tables

TABLE - 2 Structure for Semester-1

Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
			Lectures	Tutorials	PR/DRG	Theory		TW	PR	OR	Max. Marks	
						In-Semester Exam	End-Semester Exam					
107001	Engineering Mathematics I		4	1	–	50	50	25	–	–	125	5
107002 / 107009.	Engineering Physics OR Engineering Chemistry		4	–	2	50	50	25	–	–	125	5
102006	Engineering Graphics I		3	–	2	50	50	–	–	–	100	4
103004 / 104012	Basic Electrical Engineering OR Basic Electronics Engineering		3	–	2	50	50	25	–	–	125	4
101005	Basic Civil and Environmental Engineering		3	–	2	50	50	25	–	–	125	4
110003	Fundamentals of Programming Languages I		1	–	2	–	–	–	50*	–	50	2
111007	Workshop Practice		–	–	2	–	–	50	–	–	50	1
Total of Semester I			18	1	12	250	250	150	50	–	700	25



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TABLE - 3 Structure for Semester-2

Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
			Lectures	Tutorials	PR/DRG	Theory		TW	PR	OR	Max. Marks	
						In-Semester Exam	End-Semester Exam					
107008	Engineering Mathematics II		4	–	–	50	50	–	–	–	100	4
107009 / 107002	Engineering Chemistry OR Engineering Physics		4	–	2	50	50	25	–	–	125	5
102013	Basic Mechanical Engineering		3	–	2	50	50	25	–	–	125	4
101011	Engineering Mechanics		4	–	2	50	50	25	–	–	125	5
104012 / 103004	Basic Electronics Engineering OR Basic Electrical Engineering		3	–	2	50	50	25	–	–	125	4
110010	Fundamentals of Programming Languages II		1	–	2	–	–	–	50*	–	50	2
102014	Engineering Graphics II		–	–	2	–	–	50	–	–	50	1
Total of Semester II			19	–	12	250	250	150	50	–	700	25

Instructions:

1. PR/Tutorial must be conducted in minimum three batches (batch size 22 maximum) per division
2. Minimum number of required Experiments/Assignments in PR/DRG/Tutorial be carried out as mentioned in the syllabi of related subjects.
3. * for FPL-I and FPL-II: S.P. Pune University Online Practical Examination shall be conducted at the semester end.
4. # Every student should appear for Engineering Physics, Engineering Chemistry, Basic Electronics Engineering and Basic Electrical Engineering during the year.
5. # College is allowed to distribute Teaching Workload of subjects Physics, Chemistry, BEE, BXE in semester I and II by dividing number of FE divisions appropriately in two groups.



V. V. Patil
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 Dr. Vithalrao Vikhe Patil
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Savitribai Phule Pune University
S.E. (Civil Engineering) 2015 Course

Semester I												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory (TH)	Tutorials (TUT)	Practical (PR)	In- Sem	End- Sem	TW	PR	OR	Total	TH / TUT	PR/OR/ TW
201001	Building Technology and Materials	04	--	02	50	50	50	--	--	150	04	01
207001	Engineering Mathematics III	04	01	--	50	50	50	--	--	150	05	
201006	Surveying	04	--	02	50	50	--	50	--	150	04	01
201002	Strength of Materials	04	--	02	50	50	--	--	50	150	04	01
201003	Geotechnical Engineering	04	--	02	50	50	--	--	50	150	04	01
	Audit Course 1 Awareness to Civil Engineering Practices	--	--	--	--	--	--	--	--	--	Grade	
Total		20	01	08	250	250	100	50	100	750	25	

Note: For audit courses students are given certificate by the institutes based on the assignment submitted by them.

Abbreviations: TW: Term Work, OR: Oral, PP: Passed (Only for non credit courses), NP: Not Passed (Only for non credit courses).




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Savitribai Phule Pune University
S.E. (Civil Engineering) 2015 Course

Semester II												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory (TH)	Tutorials (TUT)	Practical (PR)	In- Sem	End- Sem	TW	PR	OR	Total	TH / TUT	PR/OR/ TW
201004	Fluid Mechanics I	04	--	02	50	50	--	--	50	150	04	01
201005	Architectural Planning and Design of Buildings	04	--	02	50	50	--	50	--	150	04	01
201008	Structural Analysis I	03	01	--	50	50	--	--	--	100	04	--
207009	Engineering Geology	04	--	02	50	50	50	--	--	150	04	01
201007	Concrete Technology	04	--	02	50	50	--	--	50	150	04	01
201010	Soft Skill	--	--	02	--	--	50	--	--	50	--	01
	Audit Course 2 Road Safety Management	--	--	--	--	--	--	--	--	--	Grade	
		19	01	10	250	250	100	50	100	750	25	

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SavitribaiPhule Pune University
S.E. Electrical Engineering 2015 – Course
(w. e. f. 2016-2017)

Semester I													
Sr. No.	Subject Code	Subject Title	Teaching Scheme			Semester Examination Scheme of Marks						Credit	
			Th.	Tut.	Pr.	Paper		TW	PR	OR	Total	TH/TUT	PR+OR
						In Sem(Online)	End Sem						
1.	203141	Power Generation Technologies	04	--	--	50	50	--	--	--	100	04	---
2.	207006	Engineering Mathematics-III	04	01	--	50	50	25	--	--	125	05	---
3.	203142	Material Science	04	--	02	50	50	--	--	50	150	04	01
4.	203143	Analog and Digital Electronics	04	--	02	50	50	25	50	--	175	04	01
5.	203144	Electrical Measurements and Instrumentation	04	--	02	50	50	25	50	--	175	04	01
6.	203151	Soft Skills	--	--	02	--	--	25	--	--	25	--	01
Total												21	04
7.	203154	Audit Course I	--	--	--	--	--	--	--	--	--	Grade: PP/NP	
Total			20	01	08	250	250	100	100	50	750	25	

Semester II													
Sr. No.	Subject Code	Subject Title	Teaching Scheme			Semester Examination Scheme of Marks						Credit	
			Th.	Tut.	Pr.	Paper		TW	PR	OR	Total	TH/TUT	PR+OR
						In Sem(Online)	End Sem						
1.	203145	Power System I	04	--	--	50	50	--	--	--	100	04	--
2.	203146	Electrical Machines I	04	--	02	50	50	25	50	--	175	04	01
3.	203147	Network Analysis	04	--	02	50	50	50	--	--	150	04	01
4.	203148	Numerical Methods and Computer Programming	04	01	02	50	50	25	50	--	175	05	01
5.	203149	Fundamentals of Microcontroller and Applications	04	--	02	50	50	--	--	50	150	04	01
Total												21	04
6.	203155	Audit Course II	--	--	--	--	--	--	--	--	--	Grade: PP/NP	
Total			20	01	08	250	250	100	100	50	750	25	

TW: Term Work OR: Oral PR: Practical

PP: Passed (Only for non-credit courses) NP: Not Passed (Only for non-credit courses)



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Savitribai Phule Pune University, Pune
SE(E&TC/Electronics Engineering) 2015 Course

(With effect from Academic Year 2016-17)

Semester I												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem (On line)	End-Sem (Theory)	TW	PR	OR	Total	TH/TUT	PR+OR
204181	Signals & Systems	3	1	-	50	50	25	-	-	125	4	-
204182	Electronic Devices & Circuits	4	-	2	50	50	-	50	-	150	4	1
204183	Electrical Circuits and Machines	3	-	2	50	50	25	-	-	125	3	1
204184	Data Structures and Algorithms	4	-	2	50	50	-	-	50	150	4	1
204185	Digital Electronics	4	-	2	50	50	-	50	-	150	4	1
204186	Electronic Measuring Instruments & Tools	1	-	2	-	-	50	-	-	50	1	1
204192	Audit Course 1	--	--	--	--	--	--	--	--	--		
Total		19	1	10	250	250	100	100	50	750	20	05
Total Credits											25	

Abbreviations:

Th : Theory

TW: Term Work

OR: Oral

TUT : Tutorial

PR : Practical

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Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)



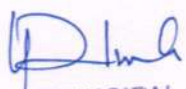
SE(E&TC/Electronics Engineering) 2015 Course**(With effect from Academic Year 2016-17)**

Semester II												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem (on line)	End-Sem (Theory)	TW	PR	OR	Total	TH/TUT	PR+OR
207005	Engineering Mathematics III	4	1	-	50	50	25	-	-	125	5	-
204187	Integrated Circuits	4	-	2	50	50	25	50	-	175	4	1
204188	Control Systems	3	-	-	50	50	-	-	-	100	3	-
204189	Analog Communication	3	-	2	50	50	-	50	-	150	3	1
204190	Object Oriented Programming	3	-	4	50	50	-	-	50	150	3	2
204191	Employability Skill Development	2	-	2	-	-	50	-	-	50	2	1
204193	Audit Course 2	--	--	--	--	--	--	--	--	--		
Total		19	1	10	250	250	100	100	50	750	20	05
Total Credits											25	

Abbreviations:

TH: Theory
 TW: Term Work
 OR: Oral

TUT: Tutorial
 PR: Practical


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Note: Interested students of S.E (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)



S.E. (Information Technology) 2015 Course to be implemented from June 2016

SEMESTER – I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Tutorial	Practical	Theory Paper	Theory Online	TW	PR	OR		
214441	Discrete Structures	4	--	--	50	50	--	--	--	100	4
214442	Computer Organization & Architecture	4	--	--	50	50	--	--	--	100	4
214443	Digital Electronics and Logic Design	4	--	--	50	50	--	--	--	100	4
214444	Fundamentals of Data Structures	4	--	--	50	50	--	--	--	100	4
214445	Problem Solving and Object Oriented programming	4	--	--	50	50	--	--	--	100	4
214446	Digital Laboratory	--	--	2	--	--	25	50	--	75	1
214447	Programming Laboratory	--	--	4	--	--	25	50	--	75	2
214448	Object Oriented programming Lab.	--	--	2	--	--	25	50	--	75	1
214449	Communication Skills	--	--	2	--	--	25	--	--	25	1
	Audit Course	--	--	--	--	--	--	--	--		
Total		20	--	10	250	250	100	150	--	750	
Total of Part-I		30 Hours			750						25

SEMESTER – II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Tutorial	Practical	Theory Paper	Theory Online	TW	PR	OR		
207003	Engineering Mathematics -III	4	1	--	50	50	25	--	--	125	5
214450	Computer Graphics	3	-	--	50	50	--	--	--	100	3
214451	Processor Architecture and Interfacing	4	-	-	50	50	--	--	--	100	4
214452	Data Structures & Files	4	-	-	50	50	--	--	--	100	4
214453	Foundations of Communication and Computer Network	4	-	-	50	50	--	--	--	100	4
214454	Processor Interfacing Laboratory	--	--	4	--	--	25	50	--	75	2
214455	Data Structure and Files Laboratory	--	--	4	--	--	25	50	--	75	2
214456	Computer Graphics Laboratory	--	--	2	--	--	25	50	--	75	1
	Audit Course	--	--	--	--	--	--	--	--		
Total		19	01	10	250	250	100	150	--	750	
Total of Part-II		30 Hours			750						25

TW: Term Work

PR: Practical

OR: Oral



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**Structure of S.E. (Mechanical Engineering/ Automobile Engineering)
2015 Course**

Semester-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits	
		Hours/Week										
		L	Tut.	PR	In-Sem (online)	End-Sem	TW	PR.	Oral		Lect/Tut	PR/OR
207002	Engineering Mathematics – III	04	01	-	50	50	25	-	-	125	05	-
202041	Manufacturing Process-I	03	-	02	50	50	50	-	-	150	03	01
202042	Computer Aided Machine Drawing	01	-	02	--	--		50	-	50	01	01
202043	Thermodynamics	04	-	02	50	50	-	-	50	150	04	01
202044	Material Science	03	01	-	50	50	25	-	-	125	03	01
202051	Strength of Materials	04	-	02	50	50	-	-	50	150	04	01
202055	Audit course											
					--	--						
	Total	19	02	08	250	250	100	50	100	750	20	05
	Total of Part-I	29 Hrs					750				25	

Note: Material Science and Engineering Mathematics-III practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

Semester-II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits	
		Hours/Week			In-Sem (online)	End-Sem	TW	PR.	Oral		Lect/Tut	PR/OR
		L	Tut.	PR								
202045	Fluid Mechanics	04	-	02	50	50	-	50	-	150	04	01
202047	Soft Skills	-	-	02	--	--	25	-	-	25	-	01
202048	Theory of Machines – I	04	01	-	50	50	25	-	25	150	04	01
202049	Engineering Metallurgy	03	01	-	50	50	-	-	25	125	03	01
202050	Applied Thermodynamics	04	-	02	50	50	-	50	-	150	04	01
203152	Electrical and Electronics Engineering	03	-	02	50	50	25	-	-	125	03	01
202053	Machine Shop – I	-	-	02	--	--	25	-	-	25	-	01
	Total	18	02	10	250	250	100	100	50	750	18	07
	Total of Part-II	30 Hrs			750						25	

Note: Theory of Machine-I and Engineering Metallurgy practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.



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Savitribai Phule University of Pune
Third Year Civil Engineering
(2015 Course)

Semester I

Course Code	Course	Teaching Scheme hour/week			Semester Examination Scheme of marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	T W	OR	PR	Total	TH/TUT	PR/OR/TW
301001	Hydrology and water resource engineering.	03	--	02	30	70	--	50	--	150	03	01
301002	Infrastructure Engineering and Construction Techniques	03	--	--	30	70	--	--	--	100	04	--
301003	Structural Design-I	04	--	04	30	70	50	50	--	200	04	02
301004	Structural Analysis-II	04	--	--	30	70	--	--	--	100	03	--
301005	Fluid Mechanics-II	04	--	02	30	70	--	50	--	150	04	01
301006	Employability Skills development	--	--	02	--	--	50	--	--	50	--	01
Total		18	--	10	150	350	100	150		750	18	05




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Semester II

Course Code	Course	Teaching Scheme hour/week			Semester Examination Scheme of marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	T W	OR	PR	Total	TH/TUT	PR/OR/TW
301007	Advanced Surveying	03	--	02	30	70	50	--	--	150	03	01
301008	Project Management and Engineering Economics	04	--	--	30	70	--	--	--	100	04	--
301009	Foundation Engineering	03	--	--	30	70	--	--	--	100	03	--
301010	Structural Design-II	04	--	04	30	70	50	50	--	200	04	02
301011	Environmental Engineering-I	04	--	02	30	70	--	--	50	150	04	01
301012	Seminar	--	--	01	--	--	--	50	--	50	--	01
	Total	18	--	09	150	350	100	100	50	750	18	05




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Savitribai Phule Pune University
FACULTY OF ENGINEERING
T.E. Electrical Engineering (2015 Course)
(w.e.f. 2017-2018)

(w.e.f. 2017-2018)													
SEMESTER-I													
Sr. No	Subject Code	Subject Title	Teaching Scheme			Examination Scheme					Total Marks	Credit	
			Th	Pr.	Tu.	PP		TW	PR	OR		TH/ TU	PR+OR
						In Sem	End Sem						
1	311121	Industrial and Technology Management	03	--	--	30	70	--	--	--	100	03	--
2	303141	Advance Microcontroller and its Applications	04	02	--	30	70	--	--	50	150	04	01
3	303142	Electrical Machines II	04	02	--	30	70	--	50	--	150	04	01
4	303143	Power Electronics	04	02	--	30	70	--	50	--	150	04	01
5	303144	Electrical Installation, Maintenance and Testing	03	02	--	30	70	50	--	--	150	03	01
6	303145	Seminar and Technical Communication	--	02	--	--	--	50	--	--	50	--	01
	303152	Audit Course III											
TOTAL			18	10	--	150	350	100	100	50	750	18	05

SEMESTER-II													
Sr. No.	Subject Code	Subject Title	Teaching Scheme			Examination Scheme					Total Marks	Credit	
			Th.	Pr.	Tu	PP		TW	PR	OR		TH/ TU	PR+OR
						In Sem	End Sem						
1.	303146	<u>Power System II</u>	04	02	--	30	70	--	50	--	150	04	01
2.	303147	<u>Control System I</u>	04	02	--	30	70	-	--	50	150	04	01
3.	303148	<u>Utilization of Electrical Energy</u>	03	--	--	30	70	--	--	--	100	03	--
4.	303149	<u>Design of Electrical Machines</u>	04	02	--	30	70	25	--	50	175	04	01
5.	303150	<u>Energy Audit and Management</u>	03	02	--	30	70	25	--	--	125	03	01
6.	303151	<u>Electrical Workshop</u>	--	02	--	--	--	50	--	--	50	--	01
	303153	<u>Audit Course IV</u>											
Total			18	10	--	150	350	100	50	100	750	18	05

Th: Theory lectures hours/week
 Pr: Practical hours/week
 Tu: Tutorial hours/week



TW: Term work
 PR: Theory
 OR: Oral
 PP: Paper- In semester and End Semester

T.E. Electrical Engineering (2015 Course) – Savitribai Phule Pune University

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 College of Engineering
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Savitribai Phule University of Pune, Pune
Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

Semester I												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credits	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/ TW
304181	Digital Communication	3	--	--	30	70	--	--	--	100	3	--
304182	Digital Signal Processing	3	--	--	30	70	--	--	--	100	3	--
304183	Electromagnetics	3	1	--	30	70	--	--	--	100	4	--
304184	Microcontrollers	3	--	--	30	70	--	--	--	100	3	--
304185	Mechatronics	3	--	--	30	70	--	--	--	100	3	--
304191	Signal Processing and Communications Lab (DC/DSP)	--	--	4	--	--	50	50		100	--	2
304192	Microcontrollers and Mechatronics Lab	--	--	4	--	--	50	50		100	-	2
304193	Electronics System Design	2	--	2	--	--	-	--	50	50	2	1
	Audit Course 3	--	--	--	--	--	--	--	--	--	----	
	Total	17	01	10	150	350	100	100	50	750	18	5
Total Credits											23	




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Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

Semester II												
Course Code	Course	Teaching Scheme			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304186	Power Electronics	3	--	--	30	70	--	--	--	100	3	--
304187	Information Theory, Coding and Communication Networks	4	--	--	30	70	--	--	--	100	4	--
304188	Business Management	3	--	--	30	70	--	--	--	100	3	--
306189	Advanced Processors	3	--	--	30	70	--	--	--	100	3	--
304190	System Programming and Operating Systems	3	--	--	30	70	--	--	--	100	3	--
304194	Power and ITCT Lab	--	--	4	--	--	50	50	--	100	--	2
304195	Advanced Processors and System Programming Lab	--	--	4	--	--	50	50	--	100	--	2
304196	Employability Skills and Mini Project	2	--	2	--	--	--	--	50	50	2	1
	Audit Course 4	--	--	--	--	--	--	--	--	--		
Total		18	---	10	150	350	100	100	50	750	18	5
Total Credits											23	




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T.E. (Information Technology) 2015 Course to be implemented from June 2017

SYLLABUS STRUCTURE

SEMESTER – I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Tutorial	Practical	In-Sem. Paper	End-Sem. Paper	TW	PR	OR		
314441	Theory of Computation	4	--	--	30	70	--	--	--	100	4
314442	Database Management Systems	4	--	--	30	70				100	4
314443	Software Engineering &Project Management	3	--	--	30	70	--	--	--	100	3
314444	Operating System	4	--	--	30	70	--	--	--	100	4
314445	Human-Computer Interaction	3	--	--	30	70	--	--	--	100	3
314446	Software Laboratory-I		--	4	--	--	25	50	50	125	2
314447	Software Laboratory-II	--	--	4	--	--	25	50	--	75	2
314448	Software Laboratory-III	--	--	2	--	--	50	--	--	50	1
314449	Audit Course 3	--	--		--	--	--	--	--	Grade	
	Total	18	--	10	150	350	100	100	50	750	23
	Total of Part-I	28 Hours				750					

SEMESTER – II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Tutorial	Practical	In-Sem. Paper	End-Sem. Paper	TW	PR	OR		
314450	Computer Network Technology	3	-	--	30	70	--	--	--	100	3
314451	Systems Programming	4	-	--	30	70	--	--	--	100	4
314452	Design and Analysis of Algorithms	4	-	-	30	70	--	--	--	100	4
314453	Cloud Computing	3	-	-	30	70	--	--	--	100	3
314454	Data Science & Big Data Analytics	4	-	-	30	70	--	--	--	100	4
314455	Software Laboratory-IV	--	--	2	--	--	25	--	25	50	1
314456	Software Laboratory-V	--	--	4	--	--	50	50	--	100	2
314457	Software Laboratory-VI	--	--	2	--	--	25	25	--	50	1
314458	Project Based Seminar	--	01	--	--	--	--	--	50	50	1
314459	Audit Course 4	--	--	--	--	--	--	--	--	Grade	
	Total	18	01	08	150	350	100	75	75	750	23
	Total of Part-II	27 Hours			750						



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Savitribai Phule Pune University
T.E. Mechanical Engineering 2015 – Course
T. E. (Mechanical) (2015 Course) Semester – I

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR		Th	TW / PR / OR
302041	Design of Machine Elements-I	4	-	2	30@	70@	50	-		150	4	1
302042	Heat Transfer*	4	-	2	30	70		50	-	150	4	1
302043	Theory of Machines-II ^s	3	1		30	70	25	-	25	150	3	1
302044	Turbo Machines	3	-	2	30	70	-	-	25	125	3	1
302045	Metrology and Quality Control ^s	3	-	2	30	70	-	-	25	125	3	1
302046	Skill Development	-	-	2	-	-	25	25	-	50	-	1
Total		17	1	10	150	350	100	75	75	750	17	6
											23	

T. E. (Mechanical) (2015 Course) Semester – II

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR		Th	TW / PR / OR
302047	Numerical Methods and Optimization*	4	-	2	30	70	-	50	-	150	4	1
302048	Design of Machine Elements-II	4	-	2	30@	70@	25	-	25	150	4	1
302049	Refrigeration and Air Conditioning	3	-	2	30	70	-	-	25	125	3	1
302050	Mechatronics%	3	1		30	70	-	-	25	125	3	1
302051	Manufacturing - Process-II ^s	3	-	-	30	70	-	-	-	100	3	-
302052	Machine Shop-II ^s	-	-	2	-	-	50	-	-	50	-	1
302053	Seminar ^s	-	-	2	-	-	25	-	25#	50	-	1
302054	Audit Course*	--	--	--	--	--	-	-	-	-	-	-
Total		17	1	10	150	350	100	50	100	750	17	6
											23	

Though it is under Oral head Internal Panel to be appointed by Principal and HOD.

Examination schedule will not be prepared at University level.

* Marked subjects are common with TE (Auto. Engg.) and TE Mech. Sandwich

^s Marked subjects are common with TE (Auto. Engg.) only

% Marked subjects are common with TE Mech. Sandwich only

@ Examination time for Insem examination 1 Hr 30 Min. and Endsem examination 3Hrs.



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 DEPARTMENT OF MECHANICAL ENGINEERING
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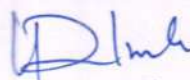
Board of Studies in Civil Engineering

Structure and Syllabus for B.E. Civil 2012 Course (w.e.f. June, 2015)



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Board of Studies in Civil Engineering

Structure for B.E. Civil 2012 Course (w.e.f. June 2015)

Subject code	Subject	Semester – I							
		Teaching Scheme Hrs/Week			Examination Scheme				
		Lect	Tu	Pr	In-Semester Assessment	TW	Or	End - Semester Exam	Total
401 001	Environmental Engineering II	3		2	30	--	50	70	150
401 002	Transportation Engineering	3		2	30	50	--	70	150
401 003	Structural Design and Drawing III	4		2	30	--	50	70	150
401 004	Elective I	3		2	30	50		70	150
401 005	Elective II	3			30			70	100
401 006	Project	--	2			50			50
	Total →	16	2	8	150	150	100	350	750

Subject code	Subject	Semester – II							
		Teaching Scheme Hrs/Week			Examination Scheme				
		Lect	Tu	Pr	In-Semester Assessment	TW	Or	End - Semester Exam	Total
401 007	Dams and Hydraulic Structures	3	--	2	30	---	50	70	150
401 008	Quantity Surveying, Contracts and Tenders	3	--	2	30	--	50	70	150
401 009	Elective III	3	--	2	30	50	--	70	150
401 010	Elective IV	3	--	2	30	50	--	70	150
401 006	Project	--	6		--	50	100	--	150
	Total →	12	6	8	120	150	200	280	750



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Savitribai Phule Pune University
B.E. (Electrical Engineering) - 2012 Course
(w.e.f. 2015-2016)

Semester I

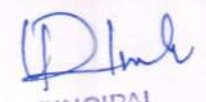
Subject code	Subject Title	Teaching Scheme Weekly load in Hrs.			Examination Scheme (Marks)					
		Lecture	Tutorial	PR	Theory		PR	OR	TW	Max. Marks
					In Semester Exam	End Semester Exam				
403141	<u>Power System Operation and Control</u>	03	--	02	30	70	--	25	25	150
403142	<u>PLC and SCADA Applications</u>	04	--	02	30	70	50	--	25	175
403143	<u>Elective I</u>	03	--	02	30	70	--	--	25	125
403144	<u>Elective II</u>	03	--	--	30	70	--	--	--	100
403145	<u>Control System II</u>	03	--	02	30	70	--	25	25	150
403146	<u>Project I</u>	--	02	--	--	--	--	50	--	50
TOTAL		16	02	08	150	350	150	100	750	

Semester II

Subject code	Subject Title	Teaching Scheme Weekly load in Hrs.			Examination Scheme (Marks)					
		Lecture	Tutorial	PR	Theory		PR	OR	TW	Max. Marks
					In Semester Exam	End Semester Exam				
403147	<u>Switchgear and Protection</u>	04	--	02	30	70	--	25	50	175
403148	<u>Power Electronic controlled Drives</u>	04	--	02	30	70	50	--	25	175
403149	<u>Elective III</u>	03	--	02	30	70	--	25	25	150
403150	<u>Elective IV</u>	03	--	--	30	70	--	--	--	100
403151	<u>Project II</u>	--	06	--	--	--	--	100	50	150
TOTAL		14	06	06	120	280	200	150	750	

Elective I (403143) A) <u>Special Purpose Machines</u> B) <u>Power Quality</u> C) <u>Renewable Energy Systems</u> D) <u>Digital Signal Processing</u>	Elective II (403144) A) <u>Restructuring and Deregulation</u> B) <u>Electromagnetic Fields</u> C) <u>EHV AC Transmission</u> D) <u>Introduction to Electrical Transportation Systems</u>
Elective III (403149) A) <u>High Voltage Engineering</u> B) <u>HVDC and FACTS</u> C) <u>Digital Control System</u> D) <u>Intelligent Systems and its Applications in Electrical Engineering</u>	Elective IV (403150) A) <u>Smart Grid</u> B) <u>Robotics and Automation</u> C) <u>Illumination Engineering</u> D) <u>Open Elective*: VLSI Design</u>




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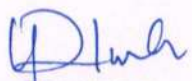
BE (E & TC) Structure
2012 Course w.e.f. June 2015

Semester-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404181	VLSI Design & Technology	3			30				70	100
404182	Computer Networks	3			30				70	100
404183	Microwave Engineering	4			30				70	100
404184	Elective I	3			30				70	100
404185	Elective II	3			30				70	100
404186	Lab Practice I (CN & MWE)			4			50	50		100
404187	Lab Practice II (VLSI & Elective I)			4		50		50		100
404188	Project Phase I		2				50			50
	Total	16	2	8	150	50	100	100	350	750

Elective I

1. Digital Image Processing
2. Embedded Systems & RTOS
3. Software Defined Radio
4. Industrial Drives and Control


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Elective II

1. Multi rate & Adaptive Signal Processing
2. Electronic Product Design
3. PLCs and Automation
4. Artificial Intelligence



Semester-II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Marks
		LECT	TUT	PR	In Semester Assessment	PR	OR	TW	End Semester Examination	Total
					Phase I				Phase II	
404189	Mobile Communication	4			30				70	100
404190	Broadband Communication Systems	4			30				70	100
404191	Elective III	3			30				70	100
404192	Elective IV	3			30				70	100
404193	Lab Practice III(MC & BCS)			4			50	50		100
404194	Lab Practice IV(Elective III)			2		50		50		100
404195	Project Phase II		6			50		100		150
	Total	14	6	6	120	100	50	200	280	750

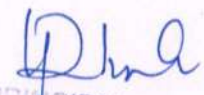
Elective III

1. Speech & Audio Signal Processing
2. RF Circuit Design
3. Audio Video Engineering
4. Soft Computing



Elective IV

1. Biomedical Signal Processing
2. Nano Electronics & MEMS
3. Detection & Estimation Theory
4. Wireless Networks
5. Open Elective*


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*Any one subject from the list of Elective IV of computer/IT/Electrical/Instrumentation or Institute can offer elective IV based on any industry need with prior approval from BoS(Electronics). Repetition of subjects or topics is to be avoided.

Dr. D. S. Bormane
 Chairman, BOS(Electronics)

B.E. (Information Technology) 2012 Course to be implemented from June 2015**SEMESTER – I**

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks
		Lecture	Practical	Tutorial	In-Semester Assessment	TW	PR	OR	End Semester Examination	
					Phase - I				Phase - II	
414453	Information and Cyber Security	3			30				70	100
414454	Software Modeling and Design	3			30				70	100
414455	Machine Learning	4			30				70	100
414456	Elective – I	3			30				70	100
414457	Elective – II	3			30				70	100
414458	Software Laboratory - III	--	4	--		50	--	50		100
414459	Software Laboratory - IV	--	4	--		--	50	50		100
414460	Project Phase I	--	--	2		50	--	--		50
Total		16	8	2	150	100	50	100	350	750

Software Laboratory – III: (Information and Cyber Security + Machine Learning)

Software Laboratory – IV: (Software Modeling and Design + Testing)

Elective – I	Elective – II
414456 A : Soft Computing	414457 A : Business Intelligence
414456 B : Usability Engineering	414457 B : Service Oriented Architecture
414456 C : Modern Compilers	414457 C : E&M Governance
414456 D : Parallel Algorithms and Design	414457 D : Geo Informatics Systems
414456 E : Cloud Computing	414457 E : Natural Language Processing


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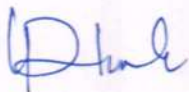
SEMESTER – II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks
		Lecture	Practical	Tutorial	In-Semester Assessment	TW	PR	OR	End Semester Examination	
					Phase - I				Phase - II	
414461	Distributed System	3			30				70	100
414462	Advanced Databases	3			30				70	100
414463	Elective – III	3	2	--	30	25	--	25	70	150
414464	Elective – IV	3			30				70	100
414465	Software Laboratory - V	--	2	--		25	25	--		50
414466	Software Laboratory - VI	--	4	--		--	50	50		100
414467	Project Work	--	--	6		50	--	100		150
Total		12	8	6	120	100	75	175	280	750

Software Laboratory – V: (Distributed Systems)

Software Laboratory – VI: (Advanced Databases)

Elective – III	Elective – IV
414463 A :Mobile Computing	414464 A :Bio Informatics
414463 B :Advanced Graphics and Animation	414464 B :Real Time and Embedded Systems
414463 C :Information Storage and Retrieval	414464 C :Green IT - Principles and Practices
414463 D :IT Enabled Services	414464 D :Internet of Things
414463 E :Advanced Computer Networks	414464 E :Open Elective



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B. E. (Mechanical) Semester – I

(w. e. f. Academic year 2015 - 16)

Code	Subject	Teaching Scheme (Weekly Load in hrs)			Examination Scheme(Marks)					
		Lect.	Tut	Practical	In-Sem	End-Sem	TW	PR ⁺	OR ⁺	Total
402041	Refrigeration and Air Conditioning	3	--	2	30	70	25	--	50	175
402042	CAD/ CAM Automation	3	--	2	30	70	--	50	--	150
402043	Dynamics of Machinery	4	--	2	30	70	25	--	50	175
402044	Elective – I	3	--	--	30	70	--	--	--	100
402045	Elective –II	3	--	--	30	70	--	--	--	100
402046	Project –I	--	2	--	--	--	50*	--	--	50
Total of Semester – I		16	2	6	150	350	100	50	100	750

B. E. (Mechanical) Semester – II

Code	Subject	Teaching Scheme (Weekly Load in hrs)			Examination Scheme(Marks)					
		Lect.	Tut	Practical	In-Sem	End-Sem	TW	PR ⁺	OR ⁺	Total
402047	Power Plant Engineering	4	--	2	30	70	25	--	50	175
402048	Mechanical System Design	4	--	2	30	70	--	--	50	150
402049	Elective-III	4	--	--	30	70	--	--	--	100
402050	Elective- IV	4	--	2	30	70	25	--	--	125
402051	Project – II	--	6	--	--	--	150	--	50	200
Total of Semester – II		16	6	6	120	280	200	--	150	750

+ For all Oral/Practical heads: Examination will be based on term work and Theory Subject

* Assessment should be carried out by panel of examiners from same Institute

Elective-I		Elective-II	
Code	Subject	Code	Subject
402044 A	Energy Audit Management	402045 A	Gas Turbine Propulsion
402044 B	Tribology	402045 B	Product Design and Development
402044 C	Reliability Engineering	402045 C	Operation Research
402044 D	Machine Tool Design	402045 D	Advanced Manufacturing Processes
Elective-III		Elective-IV	
Code	Subject	Code	Subject
402049 A	Refrigeration and Air Conditioning Equipment Design	402050 A	Computational Fluid Dynamics
402049 B	Robotics	402050 B	Finite Element Analysis
402049 C	Industrial Engineering	402050 C	Design of Pumps, Blowers and Compressors
402049 D	Open Elective **		

** : Open Elective – Board of studies (BoS) - Mechanical will declare the list of subjects which can be taken under open electives or any other Electives that are being taught in the current semester, to the same level, as Elective – III under engineering faculty or individual college and Industry can define new elective with proper syllabus using defined framework of Elective III and GET IT APPROVED FROM BOARD OF STUDIES AND OTHER NECESSARY STATUTORY SYSTEMS IN THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE, BEFORE 30th NOVEMBER. Without approval from University statutory system, no one can introduce the open elective in curriculum.



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