

Savitribai Phule Pune University
Faculty of Science & Technology



Curriculum
For
First Year
Bachelor of Engineering
(Choice Based Credit System)
(2019 Course)

(With Effect from Academic Year 2019-20)



Dr. Vithalrao Vikhe Patil

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College of Engineering
Ahmednagar

TABLE -1 First Engineering _Structure for Semester-I														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop [@]	--	02	--	--	--	--	25	--	25	--	01	--	01
Total		16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1 ^{&}	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering _Structure for Semester-II														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics ^α	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning [§]	--	04	--	--	--	25	50	--	75	--	02	--	02
Total		15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2 ^{&}	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											



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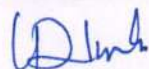
Savitribai Phule Pune University
S.E. (Civil Engineering) 2015 Course

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	

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. 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)



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

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)

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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

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)



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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									Lect/Tut	PR/OR
		L	Tut.	PR								
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		

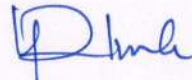
Note: Theory of Machine-I and Engineering Metallurgy practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.



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

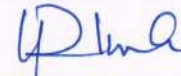
Semester I

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.T. 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	<u>Industrial and Technology Management</u>	03	--	--	30	70	--	--	--	100	03	--
2	303141	<u>Advance Microcontroller and its Applications</u>	04	02	--	30	70	--	--	50	150	04	01
3	303142	<u>Electrical Machines II</u>	04	02	--	30	70	--	50	--	150	04	01
4	303143	<u>Power Electronics</u>	04	02	--	30	70	--	50	--	150	04	01
5	303144	<u>Electrical Installation, Maintenance and Testing</u>	03	02	--	30	70	50	--	--	150	03	01
6	303145	<u>Seminar and Technical Communication</u>	--	02	--	--	--	50	--	--	50	--	01
	303152	<u>Audit Course III</u>											
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	Power System II	04	02	--	30	70	--	50	--	150	04	01
2.	303147	Control System I	04	02	--	30	70	-	--	50	150	04	01
3.	303148	Utilization of Electrical Energy	03	--	--	30	70	--	--	--	100	03	--
4.	303149	Design of Electrical Machines	04	02	--	30	70	25	--	50	175	04	01
5.	303150	Energy Audit and Management	03	02	--	30	70	25	--	--	125	03	01
6.	303151	Electrical Workshop	--	02	--	--	--	50	--	--	50	--	01
	303153	Audit Course IV											
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

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Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

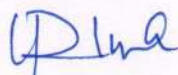
Semester I												
Course Code	Course	Teaching Scheme			Semester Examination Scheme of Marks						Credits	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304181	Digital Communication	3	--	--	30	70	--	--	--	100	3	--
304182	Digital Signal Processing	3	--	--	30	70	--	--	--	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						

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.

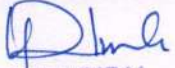
Examination schedule will not be prepared at University level.

* 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.


PRINCIPAL
 Dr. Vithalrao Vikhe Patil
 College of Engineering
 Ahmednagar

SAVITRIBAI PHULE PUNE UNIVERSITY



Board of Studies in Civil Engineering

Structure and Syllabus for B.E. Civil 2015 Course (w. e. f. June, 2018)



Dr. Vithalrao Vikhe Patil

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Dr. Vithalrao Vikhe Patil
College of Engineering
Ahmednagar

Board of Studies (Civil Engineering)

Syllabus for B. E. Civil 2015 Course (w.e.f. 2018)

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SAVITRIBAI PHULE PUNE UNIVERSITY

Board of Studies in Civil Engineering

Structure for B.E. Civil 2015 Course (w. e. f. June 2018)

Semester-I											
Subject code	Subject	Teaching Scheme Hrs/Week			In-Semester Assessment	TW	Pract /Or	End- Semester Exam	Total	Credit	
		Lect	Tu	Pr						Th	Lab
401 001	Environmental Engineering II	3	--	2	30	--	50	70	150	3	1
401002	Transportation Engineering	3	--	2	30	50	--	70	150	3	1
401 003	Structural Design and Drawing III	4	--	2	30	--	50	70	150	4	1
401 004	Elective I	3	--	2	30	50	--	70	150	3	1
401 005	Elective II	3	--	--	30	--	--	70	100	3	--
401 006	Project (Phase-I)	--	2	--	--	50	-	--	50	--	2
Total :		16	2	8	150	150	100	350	750	16	6
										22 Credits	

Semester-II											
Subject code	Subject	Teaching Scheme Hrs/Week			In-Semester Assessment	TW	Or	End- Semester Exam	Total	Credit	
		Lect	Tu	Pr						Th	Pr
401 007	Dams and Hydraulic Structures	3	--	2	30	--	50	70	150	3	1
401008	Quantity Surveying, Contracts and tenders	3	--	2	30	--	50	70	150	3	1
401 009	Elective III	3	--	2	30	50	--	70	150	3	1
401 010	Elective IV	3	--	2	30	50	--	70	150	3	1
401 006	Project	--	6	--	--	50	100	--	150	--	6
Total :		12	6	8	120	150	200	280	750	12	10
										22 Credits	

Dr. Vithalrao V. Patil
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Board of Studies (Civil Engineering)
College of Engineering
Ahmednagar

Savitribai Phule Pune University
FACULTY OF ENGINEERING

B.E. Electrical Engineering (2015 Course)
(w.e.f. 2018-2019)

SEMESTER-I													
Sr No	Subject Code	Subject Title	Teaching Scheme (Hrs/Week)			Examination Scheme (Marks)					Total Marks	Credit	
			TH	PR	TU	PP		TW	PR	OR		TH / TU	PR + OR
						In Sem	End Sem						
1	403141	Power System Operation and Control	03	02	--	30	70	25	--	25	150	03	01
2	403142	PLC and SCADA Applications	04	02	--	30	70	25	50	--	175	04	01
3	403143	Elective I	03	02	--	30	70	25	--	--	125	03	01
4	403144	Elective II	03	--	--	30	70	--	--	--	100	03	--
5	403145	Control System II	03	02	--	30	70	25	--	25	150	03	01
6	403146	Project I	--	--	02	--	--	--	--	50	50	02	--
	403152	Audit Course V											
TOTAL			16	08	02	150	350	100	50	100	750	18	04
SEMESTER-II													
Sr No	Subject Code	Subject Title	Teaching Scheme (Hrs/Week)			Examination Scheme (Marks)					Total Marks	Credit	
			TH	PR	TU	PP		TW	PR	OR		TH / TU	PR + OR
						In Sem	End Sem						
1	403147	Switchgear and Protection	03	02	--	30	70	50	--	25	175	03	01
2	403148	Power Electronic Controlled Drives	04	02	--	30	70	25	50	--	175	04	01
3	403149	Elective III	03	02	--	30	70	25	--	25	150	03	01
4	403150	Elective IV	03	--	--	30	70	--	--	--	100	03	--
5	403151	Project II	--	--	06	--	--	50	--	100	150	06	--
	403153	Audit Course VI											
TOTAL			13	06	06	120	280	150	50	150	750	19	03

Savitribai Phule Pune University
Final Year E&TC Engineering (2015 Course)
(With effect from Academic Year 2018-19)

Semester I												
Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credits	
		Theor y	Tut	Pract	In-Sem	End-Sem	TW	PR	OR	Total	TH/TW	PR+OR
404181	VLSI Design& Technology	3	--	--	30	70	--	--	--	100	3	--
404182	Computer Networks & Security	4	--	--	30	70	--	--	--	100	4	--
404183	Radiation & Microwave Techniques	3	--	--	30	70	--	--	--	100	3	--
404184	Elective I	3	--	--	30	70	--	--	--	100	3	--
404185	Elective II	3			30	70	--	--	--	100	3	--
404186	Lab Practice -I (CNS+ RMT)	--	--	4	--	--	50	--	50	100	--	TW 01 + OR 01
404187	Lab Practice -II (VLSI + Elective I)	--	--	4	--	--	50	50		100	--	TW01 + PR 01
404188	Project Stage I	-	2	--	--	--	-	--	50	50	--	2
	Audit Course 5	--	--	--	--	--	--	--	--	--	----	
Total		16	2	8	150	350	100	50	100	750	16	6
Total Credits											22	
<u>Elective I</u> 1 Digital Image and Video Processing 2. Industrial Drives and Control 3. Embedded Systems & RTOS 4. Internet of Things				<u>Elective II</u> 1. Wavelets 2. Electronics Product Design 3. Optimization Techniques 4. Artificial Intelligence 5. Electronics in agriculture				<u>Audit Course 5</u> 1. Green Energy 2. Human Behaviour				

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Final Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2018-19)

Semester II												
Course Code	Course	Teaching Scheme			Semester Examination Scheme of						Credit	
		Hours / Week			Marks							
		Theory	Tut	Pract	In- Sem	End- Sem	TW	PR	OR	Total	TH/TW	PR+OR
404189	Mobile Communication	3	--	--	30	70	--	--	--	100	3	--
404190	Broadband Communication Systems	4	--	--	30	70	--	--	--	100	4	--
404191	Elective III	3	--	--	30	70	--	--	--	100	3	--
404192	Elective IV	3	--	--	30	70	--	--	--	100	3	--
404193	Lab Practice –III (MC+BCS)	--	--	4	--	--	50	50	--	100	--	TW 01 + PR 01
404194	Lab Practice –IV (Elective III)	--	--	2	--	--	--	--	50	50	--	1
404195	Project Stage II	--	6	-	--	--		150	50	200	--	TW 04 + OR 02
	Audit Course 6	--	--	--	--	--	--	--	--	--		
Total		13	6	6	120	280	200	50	100	750	13	9
Total Credits											22	
<u>Elective III</u> 1. Machine Learning 2. PLC s and Automation 3. Audio and Speech Processing 4. Software Defined Radio 5. Audio Video Engineering				<u>Elective-IV</u> 1. Robotics 2. Biomedical Electronics 3. Wireless Sensor Networks 4. Renewable Energy Systems 5. Open Elective*				<u>Audit Course 6</u> 1. Team Building, Leadership and Fitness 2. Environmental issues and Disaster Management				



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Ahmednagar

B.E. (Information Technology) 2015 Course to be implemented from Academic Year 2018-19

SEMESTER-I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Practical	Tutorial	In-Sem	TW	PR	OR	End-Sem		
414453	Information and Cyber Security	3	--	--	30	--	--	--	70	100	3
414454	Machine Learning and Applications	4	--	--	30	--	--	--	70	100	4
414455	Software Design and Modeling	3	--	--	30	--	--	--	70	100	3
414456	Elective-I	3	--	--	30	--	--	--	70	100	3
414457	Elective -II	3	--	--	30	--	--	--	70	100	3
414458	Computer Laboratory-VII	--	4	--	--	50	50	--	--	100	2
414459	Computer Laboratory-VIII	--	4	--	--	50	--	50	--	100	2
414460	Project Phase-I	--	--	2	--	--	--	50	--	50	2
414461	Audit Course-V	--	--	--	--	--	--	--	--	Grade	
Total		16	8	2	150	100	50	100	350	750	22
Total of Part-I		26				750					

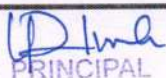
Abbreviations: TW: Term Work TH: Theory OR: Oral PR: Practical Sem: Semester

Computer Laboratory-VII (Information and Cyber Security+ Machine Learning and Application)

Computer Laboratory-VIII (Software Design and Modeling)

Elective I		Elective II	
414456 A	<u>1. Wireless Communications</u>	414457A	<u>1. Software Defined Networks</u>
414456B	<u>2. Natural Language Processing</u>	414457B	<u>2. Soft Computing</u>
414456C	<u>3. Usability Engineering</u>	414457C	<u>3. Software Testing and Quality Assurance</u>
414456D	<u>4. Multicore and Concurrent Systems</u>	414457D	<u>4. Compiler Construction</u>
414456E	<u>5. Business Analytics and Intelligence</u>	414457E	<u>5. Gamification</u>

Audit Course-V	
414461A	<u>1. Emotional Intelligence</u>
414461B	<u>2. Green Computing</u>
414461C	<u>3. Critical Thinking</u>
414461D	<u>4. Statistical Learning model using R.</u>



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SEMESTER –II

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Practical	Tutorial	In-Sem	TW	PR	OR	End-Sem		
414462	Distributed Computing System	3	--	--	30	--	--	--	70	100	3
414463	Ubiquitous Computing	3	--	--	30	--	--	--	70	100	3
414464	Elective-III	3	2	--	30	25	--	25	70	150	4
414465	Elective-IV	3	--	--	30	--	--	--	70	100	3
414466	Computer Laboratory-IX	--	4	--	--	50	50	--	--	100	2
414467	Computer Laboratory-X	--	2	--	--	25	--	25	--	50	1
414468	Project Work	--	--	6	--	50	--	100	--	150	6
414469	Audit Course-VI	--	--	--	--	--	--	--	--	Grade	
Total		12	8	6	120	150	50	150	280	750	22
Total of Part-II		26				750					

Abbreviations: TW: Term Work TH: Theory OR: Oral PR: Practical Sem: Semester
 Computer Laboratory-IX (Distributed Computing System)
 Computer Laboratory-X (Ubiquitous Computing)

Elective III		Elective IV	
414464A	<u>1. Internet of Things (IoT)</u>	414465A	<u>1. Rural Technologies and Community Development</u>
414464B	<u>2. Information storage and retrieval</u>	414465B	<u>2. Parallel Computing</u>
414464C	<u>3. Multimedia Techniques</u>	414465C	<u>3. Computer Vision</u>
414464D	<u>4. Internet and Web Programming</u>	414464D	<u>4. Social Media Analytics</u>
414464E	<u>5. Computational Optimization</u>	414465E	<u>5. Open Elective</u>

Audit Course-VI	
414469A	<u>1. IoT – Application in Engineering field</u>
414469B	<u>2. Entrepreneurship</u>
414469C	<u>3. Cognitive Computing</u>
414469D	<u>4. AI and Robotics</u>

Savitribai Phule Pune University, Pune
BE (Mechanical Engineering) (2015 Course) Semester – VII

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits		
		Lect	Tut	Pract	In-Sem	End-Sem	TW	PR	OR		TH	TW	OR/PR
402041	Hydraulics and Pneumatics	3	-	2	30	70	25	-	25	150	3	-	1
402042	CAD CAM Automation	3	-	2	30	70	25	50	-	175	3	-	1
402043	Dynamics of Machinery	4	-	2	30	70	25	-	25	150	4	-	1
402044	Elective-I	3	-	2	30	70	25	-	-	125	3	1	-
402045	Elective-II	3	-	-	30	70	-	-	-	100	3	-	-
402046	Project Stage-I	-	-	4	-	-	25	-	25	50	-	1	1
Total		16	-	12	150	350	125	50	75	750	16	2	4
											22		

B. E. (Mechanical Engineering) (2015 Course) Semester – VIII

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits		
		Lect	Tut	Pract	In-Sem	End-Sem	TW	PR	OR		TH	TW	OR/PR
402047	Energy Engineering	3	-	2	30	70	25	-	25	150	3	-	1
402048	Mechanical System Design	4	-	2	30 (1.5 hrs)	70 (3 hrs)	25	-	50	175	4	-	1
402049	Elective-III	3	-	2	30	70	25	-	--	125	3	1	-
402050	Elective-IV	3	-	-	30	70	-	-	-	100	3	-	-
402051	Project Stage-II	-	-	12	-	-	100	-	100	200	-	3	3
Total		13	-	18	120	280	175	-	175	750	13	4	5
											22		

Elective – I		Elective – II	
Code	Subject	Code	Subject
402044 A	Finite Element Analysis	402045 A	Automobile Engineering
402044 B	Computational Fluid Dynamics	402045 B	Operation Research
402044 C	Heating Ventilation and Air Conditioning	402045 C	Energy Audit and Management
		402045 D	Open Elective**
Elective – III		Elective – IV	
402049 A	Tribology	402050 A	Advanced Manufacturing Processes
402049 B	Industrial Engineering	402050 B	Solar & Wind Energy
402049 C	Robotics	402050 C	Product Design and Development
		402050 D	Open Elective**