



"Empowerment through quality technical education"  
Dr D Y Patil Educational Enterprises Charitable Trust's

Ajeenkya D Y Patil Group of Institution's Technical Campus

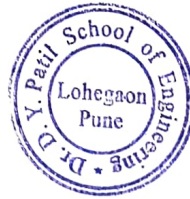
**Dr D Y PATIL SCHOOL OF ENGINEERING**

(Approved by AICTE, New Delhi Recognized by Govt. of Maharashtra, Affiliated to Savitribai Phule Pune University)

AISHE Code: C-46648 DTE Code: EN6732 SPPU PUN Code: CEGP015720

(Accredited by NAAC)

1.3.2 Number of courses that include experimental learning through project work/field work/internship during the year



Principal

*[Signature]*  
Dr.F.B. Sayyad



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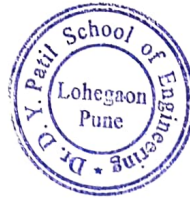
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# 2017 Pattern Syllabus Structure

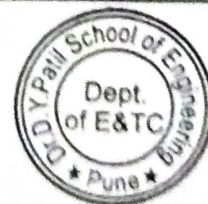
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ME **First Year – Semester I**

Sr.No.	Subject Code	Subject	Examination Scheme					Credits	
			L/P	Paper		Total			
				ISA	ESA		TW		OR
1	504201	Digital CMOS Design	4	50	50	-	-	100	4
2	504202	Reconfigurable Computing	4	50	50	-	-	100	4
3	504203	Embedded System Design	4	50	50	-	-	100	4
4	504204	Research Methodology	4	50	50	-	-	100	4
5	504205	Elective I	5	50	50	-	-	100	5
6	504206	Lab. Practice I	4	-	-	50	50	100	4
<b>Total</b>			<b>25</b>	<b>250</b>	<b>250</b>	<b>50</b>	<b>50</b>	<b>600</b>	<b>25</b>

✓ **Elective I:**

1. Micro Electromechanical Systems
2. Nano Technology
3. Processor Design





Sr.No.	Subject Code	Subject	Examination Scheme							Credits
			Paper			Total				
			L/P	ISA	ESA	TW	OR			
1	604201	Testing and Verification of VLSI Circuits	4	50	50	-	-	-	100	4
2	604202	ASIC Design	4	50	50	-	-	-	100	4
3	604203	Elective III	5	50	50	-	-	-	100	5
4	604204	Seminar II	4	--	----	50	50	50	100	4
5	604205	Project Stage I	8	--	---	50	50	50	100	8
		<b>Total</b>	<b>25</b>	<b>150</b>	<b>150</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>500</b>	<b>25</b>

**Elective III:**

**Elective III Topics for 3 Credits**

- 1 Value Education, Human Rights and Legislative Procedures
- 2 Environmental Studies
- 3 Renewable Energy Studies
- 4 Disaster Management
- 5 Foreign language
- 6 Knowledge Management
- 7 Economics for Engineers
- 8 Engineering Risk – Benefit Analysis





Sr.No.	Subject Code	Subject	Examination Scheme					Credits	
			L/P	Paper		TW	OR		Total
				ISA	ESA				
1	504207	Analog CMOS Design	4	50	50	-	-	100	4
2	504208	System on Chip	4	50	50	-	-	100	4
3	504209	Embedded Automotive Systems	4	50	50	-	-	100	4
4	504210	Elective II	5	50	50	-	-	100	5
5	504211	Lab. Practice II	4	--	---	50	50	100	4
6	504212	Seminar I	4	-	-	50	50	100	4
		<b>Total</b>	<b>25</b>	<b>200</b>	<b>200</b>	<b>100</b>	<b>100</b>	<b>600</b>	<b>25</b>

**Elective II :**

1. Embedded Product Design
2. High Speed ICs
3. Mixed Signal IC Design
4. Embedded Signal Processor Architectures
5. Real Time Operating Systems



**Curriculum  
for  
Third Year of Computer Engineering  
(2019 Course)**

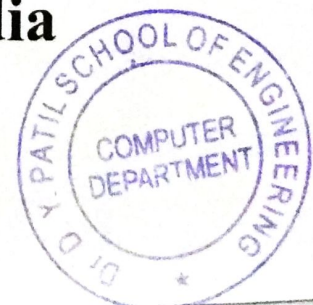
**(With effect from 2021-22)**



<http://unipune.ac.in>

**Faculty of Science and Technology**

**Savitribai Phule Pune University  
Maharashtra, India**



[http://unipune.ac.in/university\\_files/syllabi.htm](http://unipune.ac.in/university_files/syllabi.htm)



**Savitribai Phule Pune University**  
**Third Year of Computer Engineering (2019 Course)**  
 (With effect from Academic Year 2021-22)

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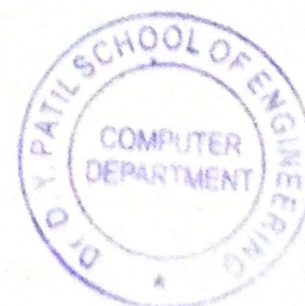


**Savitribai Phule Pune University**  
**Third Year of Computer Engineering (2019 Course)**  
**(With effect from Academic Year 2021-22)**



**Semester V**

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme							
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total				
310241	<u>Database Management Systems</u>	03	-	-	30	70	-	-	-	100	03	-	-	03				
310242	<u>Theory of Computation</u>	03	-	-	30	70	-	-	-	100	03	-	-	03				
310243	<u>Systems Programming and Operating System</u>	03	-	-	30	70	-	-	-	100	03	-	-	03				
310244	<u>Computer Networks and Security</u>	03	-	-	30	70	-	-	-	100	03	-	-	03				
310245	<u>Elective I</u>	03	-	-	30	70	-	-	-	100	03	-	-	03				
310246	<u>Database Management Systems Laboratory</u>	-	04	-	-	-	25	25	-	50	-	02	-	02				
310247	<u>Computer Networks and Security Laboratory</u>	-	02	-	-	-	25	-	25	50	-	01	-	01				
310248	<u>Laboratory Practice I</u>	-	04	-	-	-	25	25	-	50	-	02	-	02				
310249	<u>Seminar and Technical Communication</u>	-	-	01	-	-	50	-	-	50	-	-	01	01				
<b>Total</b>		<b>15</b>	<b>10</b>	<b>01</b>	<b>150</b>	<b>350</b>	<b>125</b>	<b>50</b>	<b>25</b>	<b>700</b>	<b>15</b>	<b>05</b>	<b>01</b>	<b>21</b>				
310250	<u>Audit Course 5</u>												<b>Grade</b>					
											<b>Total Credit</b>				<b>15</b>	<b>05</b>	<b>01</b>	<b>21</b>
<b>310245 Elective I Options:</b> 310245(A) <u>Internet of Things and Embedded Systems</u> 310245(B) <u>Human Computer Interface</u> 310245(C) <u>Distributed Systems</u> 310245(D) <u>Software Project Management</u>						<b>310250 Audit Course 5 Options:</b> 310250 (A) <u>Cyber Security</u> 310250 (B) <u>Professional Ethics and Etiquettes</u> 310250 (C) <u>Learn New Skills</u> 310250 (D) <u>Engineering Economics</u> 310250 (E) <u>Foreign Language</u>												
<b>Laboratory Practice I</b> Assignments from <b>Systems Programming and Operating System</b> and <b>Elective I</b>																		





**Savitribai Phule Pune University**  
**Third Year of Computer Engineering (2019 Course)**  
**(With effect from Academic Year 2021-22)**

Home

**Semester VI**

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme				
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total	
310251	Data Science and Big Data Analytics	04	-	-	30	70	-	-	-	100	03	-	-	03	
310252	Web Technology	04	-	-	30	70	-	-	-	100	03	-	-	03	
310253	Artificial Intelligence	04	-	-	30	70	-	-	-	100	03	-	-	03	
310254	Elective II	04	-	-	30	70	-	-	-	100	03	-	-	03	
310255	Internship**	-	-	-	-	-	100**	-	-	100	-	-	-	04**	
310256	Data Science and Big Data Analytics Laboratory	-	04	-	-	-	50	25	-	75	-	02	-	02	
310257	Web Technology Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01	
310258	Laboratory Practice II	-	04	-	-	-	50	25	-	75	-	02	-	02	
<b>Total</b>		<b>12</b>	<b>10</b>	<b>-</b>	<b>120</b>	<b>280</b>	<b>225</b>	<b>50</b>	<b>25</b>	<b>700</b>	<b>12</b>	<b>09</b>	<b>-</b>	<b>21</b>	
310259	Audit Course 6											<b>Grade</b>			
<b>Total</b>											<b>12</b>	<b>09</b>	<b>-</b>	<b>21</b>	

**310254 Elective II Options:**

- 310254(A) Information Security  
 310254(B) Augmented and Virtual Reality  
 310254(C) Cloud Computing  
 310254(D) Software Modeling and Architectures

**310259 Audit Course 6 Options:**

- 310259(A) Digital and Social Media Marketing  
 310259(B) Sustainable Energy Systems  
 310259(C) Leadership and Personality Development  
 310259(D) Foreign Language  
 310259(E) Learn New Skills

**Laboratory Practice II:**

Assignments from **Artificial Intelligence** and **Elective II**.

**\*\* Internship:**

**Internship** guidelines are provided in course curriculum sheet.

**SS Hours/Week for Theory Course in Third Year of Engineering, Semester VI:**

As per the apex bodies' recommendations and guidelines, it is need of the day to train the pre-final year students for the industrial readiness through internship. As per the guidelines of AICTE, the duration of internship is 4-6 weeks after completion of semester V and before commencement of semester VI, so it is apparent that the contact hours of the TE students need to be managed meticulously. It becomes mandatory as per the structure that 4 credits for internship must be earned by the students. **Per semester, 15 weeks duration that is suggested ideally by the affiliated university will eventually reduce to fruitful 12 weeks after the implementation of the revised curriculum (2019 Course). With the evaluatory introduction of internship in the structure, we are left with the choice of 4 theory courses in the sixth semester with 12 weeks instead of traditional 15 weeks.** To balance the credits and to achieve the minimum required contact hours, it is the reasonable choice to allot 4 hours / week for each theory course of the sixth semester of Third year of Engineering. The additional one lecture/ week will definitely be instrumental in achieving the largest of minimum contact hours. As such there is no correspondence of weekly load and credits earned, the credit allotted per course remain intact despite of the change. **So it is almost imperative that the commencement of VI Semester need to be approx. 3 weeks beyond the schedule.**



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**Faculty of Engineering  
Savitribai Phule Pune University, Pune  
Maharashtra, India**



**Syllabus**

**for**

**Fourth Year of Computer Engineering  
(2015 Course)**

**(with effect from 2018-19)**





## Prologue

It is with great pleasure and honor that I share the syllabi for Fourth Year of Computer Engineering (2015 Course) on behalf of Board of Studies (BoS), Computer Engineering. We, members of BoS are giving our best to streamline the processes and curricula design at both UG and PG programs.

It is always the strenuous task to balance the syllabus with the blend of core subjects, current developments and exotic subjects. By considering all the aspects with adequate prudence the contents are designed to make the graduate competent enough as far as employability is concerned. It is absolutely necessary and justified to add sufficient flexibility in the given constraints leading the curriculum design near to perfection.

It may be highly subjective to include or exclude the courses, but benefit of the learner is always the nucleus the process. Many thoughts, suggestions, recommendations and directions help us to come up with the final contents. For the final year finishing touch is absolutely necessary which is provided with project based learning at the most.

I sincerely thank all the minds and hands who work adroitly to materialize these tasks. I really appreciate everyone's contribution and suggestions in finalizing the contents.

**Dr. Varsha H. Patil**

**Coordinator, Board of Studies (Computer Engineering), SPPU, Pune**

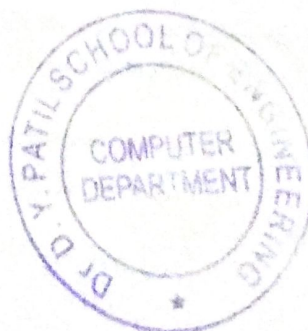
[This document contents Program Educational Objectives - Program Outcomes - Program Specific Outcomes(page 3),Courses (teaching scheme, examination, marks and credit)(page 4-5), Courses syllabi(page 7-85) and FE to BE courses at a glance(Page 86-87) ].

Other related Syllabus Links:

[Syllabus for First Year Engineering \(2015 Course\)](#)

[Syllabus for Second Year Computer Engineering \(2015 Course\)](#)

[Syllabus for Third Year Computer Engineering \(2015 Course\)](#)





**Savitribai Phule Pune University**  
**Fourth Year of Computer Engineering (2015 Course)**  
**(with effect from 2018-19)**

**Semester I**

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit		
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR	
410241	<u>High Performance Computing</u>	04	--	30	70	--	--	--	100	04	--	
410242	<u>Artificial Intelligence and Robotics</u>	03	--	30	70	--	--	--	100	03	--	
410243	<u>Data Analytics</u>	03	--	30	70	--	--	--	100	03	--	
410244	<u>Elective I</u>	03	--	30	70	--	--	--	100	03	--	
410245	<u>Elective II</u>	03	--	30	70	--	--	--	100	03	--	
410246	<u>Laboratory Practice I</u>	--	04	--	--	50	50	--	100	--	02	
410247	<u>Laboratory Practice II</u>	--	04	--	--	50	--	*50	100	--	02	
410248	<u>Project Work Stage I</u>	--	02	--	--	--	--	*50	50	--	02	
<b>Total Credit</b>										<b>16</b>	<b>06</b>	
<b>Total</b>		<b>16</b>	<b>10</b>	<b>150</b>	<b>350</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>750</b>	<b>22</b>		
410249	<u>Audit Course 5</u>										<b>Grade</b>	
<b>Elective I</b>				<b>Elective II</b>								
410244 (A) <u>Digital Signal Processing</u>				410245 (A) <u>Distributed Systems</u>								
410244 (B) <u>Software Architecture and Design</u>				410245 (B) <u>Software Testing and Quality Assurance</u>								
410244 (C) <u>Pervasive and Ubiquitous Computing</u>				410245 (C) <u>Operations Research</u>								
410244 (D) <u>Data Mining and Warehousing</u>				410245 (D) <u>Mobile Communication</u>								

**410249-Audit Course 5 (AC5) Options:**

AC5-I Entrepreneurship DevelopmentAC5-IV: Industrial Safety and Environment ConsciousnessAC5-II: Botnet of ThingsAC5-V: Emotional IntelligenceAC5-III: 3D PrintingAC5-VI: MOOC- Learn New Skills

**Abbreviations:**

TW: Term Work

TH: Theory

OR: Oral

PR: Practical

Sem: Semester

\*PRE: Project/ Mini-Project Presentation





**Savitribai Phule Pune University**  
**Fourth Year of Computer Engineering (2015 Course)**  
**(with effect from 2018-19)**

**Semester II**

Course Code	Course	Teaching Scheme		Examination Scheme and Marks						Credit	
		Hours / Week		In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
		Theory	Practical								
410250	Machine Learning	03	--	30	70	--	--	--	100	03	--
410251	Information and Cyber Security	03	--	30	70	--	--	--	100	03	--
410252	Elective III	03	--	30	70	--	--	--	100	03	--
410253	Elective IV	03	--	30	70	--	--	--	100	03	--
410254	Laboratory Practice III	--	04	--	--	50	50	--	100	--	02
410255	Laboratory Practice IV	--	04	--	--	50	--	*50	100	--	02
410256	Project Work Stage II	--	06	--	--	100	--	*50	150	02	04
<b>Total Credit</b>									<b>12</b>	<b>10</b>	
<b>Total</b>		<b>12</b>	<b>14</b>	<b>120</b>	<b>280</b>	<b>200</b>	<b>50</b>	<b>100</b>	<b>750</b>	<b>22</b>	
410257	Audit Course 6										<b>Grade</b>
<b>Elective III</b>						<b>Elective IV</b>					
410252 (A) <u>Advanced Digital Signal Processing</u>						410253 (A) <u>Software Defined Networks</u>					
410252 (B) <u>Compilers</u>						410253 (B) <u>Human Computer Interface</u>					
410252 (C) <u>Embedded and Real Time Operating Systems</u>						410253 (C) <u>Cloud Computing</u>					
410252 (D) <u>Soft Computing and Optimization Algorithms</u>						410253 (D) <u>Open Elective</u>					

**410259-Audit Course 6 (AC6) Options:**

AC6-I: Business IntelligenceAC6-IV: Usability EngineeringAC6-II: GamificationAC6-V: Conversational InterfacesAC6-III: Quantum ComputingAC6-VI: MOOC- Learn New Skills

**Abbreviations:**

TW: Term Work

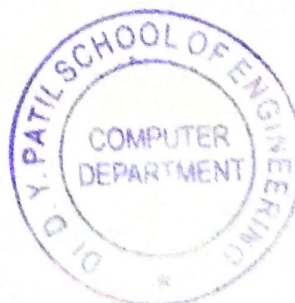
TH: Theory

OR: Oral

PR: Practical

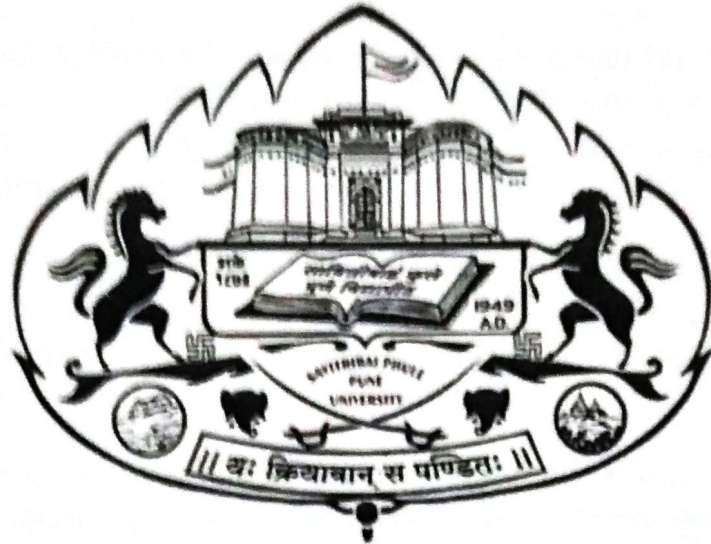
Sem: Semester

\*PRE: Project/ Mini-Project Presentation





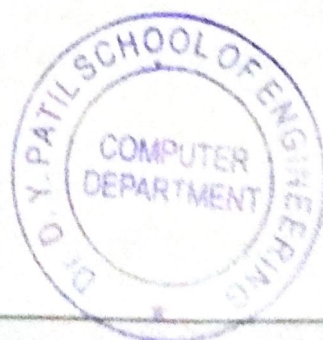
**Faculty of Engineering  
Savitribai Phule Pune University, Pune**



**Syllabus**

**Master of Computer Engineering  
(Course 2017)**

**(with effect from Year 2017-18 )**





## Prologue

It is with great pleasure and honor that I present the syllabus for Master of Computer Engineering (2017 Course) on behalf of Board of Studies (BoS), Computer Engineering. We, members of BoS are giving our best to streamline the processes and curricula design.

While revising syllabus, honest and sincere efforts are put to tune PG in Computer Engineering program syllabus in tandem with the objectives of Higher Education of India, AICTE, UGC and affiliated University (SPPU) by keeping an eye on the technological advancements and industrial requirements globally.

The basic motives of designing the contents of the courses is to focus on independent learning convergence to special domains, development of research attitude and comprehensive coverage of technologies. The flexibility and specialization at elective courses is to explore the domain specific knowledge.

The open elective is to invite the attention to multidisciplinary, interdisciplinary, exotic, employability or update to technology course. The institute may design the syllabus accordingly. This designed syllabus needs to be approved by SPPU authority before implementation.

While framing the each course contents, Course advisor, Course Coordinators and Team Members have put arduous efforts in meeting the standard of the Courses at PG level. Everybody in the team has meticulously stuck to the guidelines and recommendations to materialize the team efforts. The fruition is only due to sincere efforts, active participation, expert opinions and suggestions from domain professionals.

I am sincerely indebted to all the minds and hands who work dexterously and synchronously to materialize the huge task.

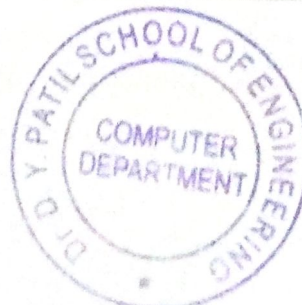
Thanks.

**Dr. Varsha H. Patil**

**Coordinator, Board of Studies (Computer Engineering), SPPU, Pune**

**Tuesday, March 28, 2017. Mail-id: [vh\\_patil2003@yahoo.com](mailto:vh_patil2003@yahoo.com)**

[This document includes Program Educational Objectives - Program Outcomes, Program Specific Outcomes (page 3), Semester-wise Courses (teaching scheme, examination, marks and credit) (page 4-5), Courses syllabi (page 6-61)] and Non Credit Course Contents [63 onwards].





## Savitribai Phule Pune University, Pune

### Master of Computer Engineering (2017 Course)

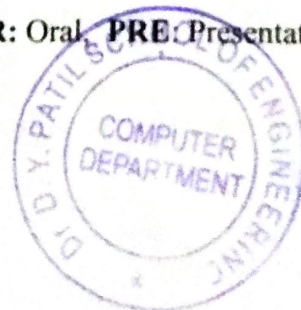
#### Semester I

Course Code	Course	Teaching Scheme		Examination Scheme and Marks					Credit							
		Hours / Week		In-Sem	End-Sem	TW	OR/PRE	Total	TH	PR						
		Theory	Practical													
510101	Research Methodology	04	--	50	50	--	--	100	04	--						
510102	Bio-Inspired Optimization Algorithms	04	--	50	50	--	--	100	04	--						
510103	Software Development and Version Control	04	--	50	50	--	--	100	04	--						
510104	Embedded and Real Time Operating Systems	04	--	50	50	--	--	100	04	--						
510105	Elective I	05	--	50	50	--	--	100	05	-						
510106	Laboratory Proficiency I	--	08	--	--	50	50	100	--	04						
<b>Total</b>								<b>21</b>	<b>08</b>	<b>250</b>	<b>250</b>	<b>50</b>	<b>50</b>	<b>600</b>	<b>21</b>	<b>04</b>
510107	Non-Credit Course I									Grade						
<b>Elective I</b>																
510105A	Advanced Digital Signal Processing			510105B	Data Mining											
510105C	Network Design and Analysis			510105D	Data Algorithms											
510105E	Open Elective															

#### Semester II

Course Code	Course	Teaching Scheme		Examination Scheme and Marks					Credit							
		Hours / Week		In-Sem	End-Sem	TW	OR/PRE	Total	TH	PR						
		Theory	Practical													
510108	Operation Research	04	--	50	50	--	--	100	04	--						
510109	System Simulation and Modeling	04	--	50	50	--	--	100	04	--						
510110	Machine Learning	04	--	50	50	--	--	100	04	--						
510111	Elective II	05	--	50	50	--	--	100	05	--						
510112	Seminar I		04	--	--	50	50	100	--	04						
510113	Laboratory Proficiency II	--	08	--	--	50	50	100	--	04						
<b>Total</b>								<b>17</b>	<b>12</b>	<b>200</b>	<b>200</b>	<b>100</b>	<b>100</b>	<b>600</b>	<b>17</b>	<b>08</b>
510114	Non-Credit Course II									Grade						
<b>Elective II</b>																
510111A	Image Processing			510111B	Web Mining											
510111C	Pervasive and Ubiquitous Computing			510111D	Network Security											
510111E	Open Elective															

**Abbreviations:** TW: Term Work , TH: Theory, OR: Oral, PRE: Presentation, Sem: Semester





**Savitribai Phule Pune University, Pune**

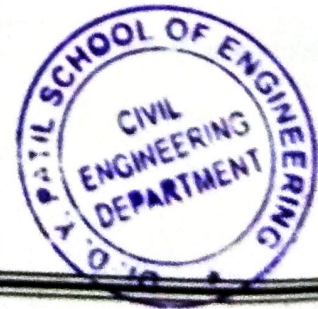


**Syllabus for TE Civil Engineering (2019 Pattern)**

**Implemented from Academic year 2021-22**

**Board of Studies in Civil Engineering**

**Faculty of Science and Technology**





**Savitribai Phule Pune University, Pune**  
**TE (Civil Engineering) 2019 Pattern**  
**(With effect from Academic Year 2021-22)**

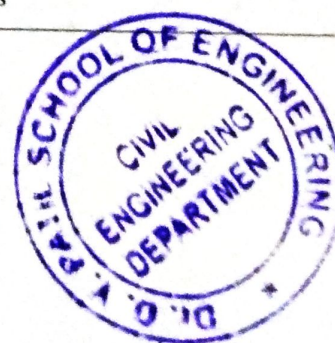
**- SEMESTER: V**

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
301001	Hydrology and Water Resources Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301002	Water Supply Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301003	Design of Steel Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301004	Engineering Economics and Financial Management	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301005	Elective I	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301006	Seminar	--	--	01	--	--	50	--	--	50	--	--	--	--	01	01
301007	Hydrology and Water Resources Engineering Lab	--	02	--	--	--	25	--	--	25	--	01	--	--	--	01
301008	Water Supply Engineering Lab	--	02	--	--	--	--	50	--	50	--	--	01	--	--	01
301009	Design of Steel Structures Lab	--	04	--	--	--	--	--	50	50	--	--	--	02	--	02
301010	Elective I Lab	--	02	--	--	--	25	--	--	25	--	01	--	--	--	01
301011	Audit Course I: Professional Ethics and Etiquettes/ Sustainable Energy Systems	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
<b>Total</b>		<b>15</b>	<b>10</b>	<b>02</b>	<b>150</b>	<b>350</b>	<b>100</b>	<b>50</b>	<b>50</b>	<b>700</b>	<b>15</b>	<b>02</b>	<b>01</b>	<b>02</b>	<b>01</b>	<b>21</b>

**Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral, TUT : Tutorial, GR: Grade**

**Elective I: 301005**

S N	Course Code	Course Name
01	301005 a	Advanced Fluid Mechanics and Hydraulic Machines
02	301005 b	Research Methodology and IPR
03	301005 c	Construction Management
04	301005 d	Advanced Concrete Technology
05	301005 e	Matrix Methods of Structural Analysis
06	301005 f	Advanced Mechanics of Structures



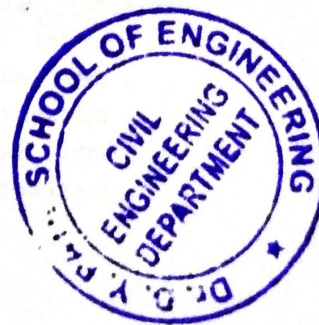


SEMESTER-VI																
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks					Credit						
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
301012	Waste Water Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301013	Design of RC Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301014	Remote Sensing and GIS	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301015	Elective II	03	--	--	30	70	--	--	--	100	03	--	--	--	03	
301016	Internship	--	--	--	--	--	100	--	--	100	--	04	--	--	04	
301017	Waste Water Engineering Lab	--	02	--	--	--	--	--	50	50	--	--	01	--	01	
301018	Design of RC Structures Lab	--	04	--	--	--	--	--	50	50	--	--	02	--	02	
301019	Remote Sensing and GIS Lab	--	02	--	--	--	50	--	--	50	--	01	--	--	01	
301020	Elective II Lab	--	02	--	--	--	50	--	--	50	--	01	--	--	01	
301021	Audit Course II: Leadership and Personality Development/ Industrial Safety	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	
<b>Total</b>		<b>12</b>	<b>10</b>	<b>01</b>	<b>120</b>	<b>280</b>	<b>200</b>	<b>--</b>	<b>100</b>	<b>700</b>	<b>12</b>	<b>06</b>	<b>--</b>	<b>03</b>	<b>--</b>	<b>21</b>

**Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral and TUT : Tutorial, GR: Grade**

### Elective II: 301015

S N	Course Code	Course Name
01	301015 a	Advanced Engineering Geology with Rock Mechanics
02	301015 b	Soft Computing Techniques
03	301015 c	Advanced Surveying
04	301015 d	Advanced Geotechnical Engineering
05	301015 e	Architecture and Town Planning
06	301015 f	Solid Waste Management





# SAVITRIBAI PHULE PUNE UNIVERSITY



## Board of Studies in Civil Engineering

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





**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
<b>Total :</b>		16	2	8	150	100	150	350	750	16	6
										<b>22 Credits</b>	

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
<b>Total :</b>		12	6	8	120	150	200	280	750	12	10
										<b>22 Credits</b>	





**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)**



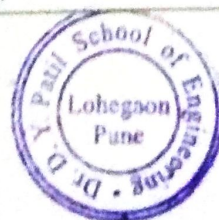
**TABLE -1 First Engineering Structure for Semester-I**

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 <sup>a</sup>	--	02	--	--	--	--	25	--	25	--	01	--	01
Total		16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1 <sup>&amp;</sup>	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 <sup>o</sup>	01	02	01	--	50	--	25	--	75	01	--	01	02
110013	Project Based Learning <sup>§</sup>	--	04	--	--	--	25	50	--	75	--	02	--	02
Total		15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2 <sup>&amp;</sup>	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											





**Savitribai Phule Pune University**



**Faculty of Science and  
Technology**

**Syllabus for Final Year of Mechanical Engineering**

**(Course 2015)**





# Savitribai Phule Pune University

## B. E. (Mechanical) (2015 Course) Semester – I

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In Sem	End Sem	TW	PR	OR		Theory	TW/ Pr/OR
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-I	-	-	4	-	-	25	-	25	50	-	2
Total		16	-	12	150	350	125	50	75	750	16	6
												22

## B. E. (Mechanical) (2015 Course) Semester – II

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In Sem	End Sem	TW	PR	OR		Theory	TW/ Pr/OR
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-II	-	-	12	-	-	100	-	100	200	-	6
Total		13	-	18	120	280	175	-	175	750	13	9
												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	
Code	Subject	Code	Subject
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**

