

§ : 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

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.

Savitribai Phule Pune University												
Second Year of Computer Engineering (2015 Course)												
(With effect from Academic Year 2016-17)												
Semester I												
Course Code	Course Name	Teaching Scheme Hours / Week			Examination Scheme & Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH + TUT	PR
210241	<u>Discrete Mathematics</u>	04	--	--	50	50	--	--	--	100	04	--
210242	<u>Digital Electronics and Logic Design</u>	04	--	--	50	50	--	--	--	100	04	--
210243	<u>Data Structures and Algorithms</u>	04	--	--	50	50	--	--	--	100	04	--
210244	<u>Computer Organization and Architecture</u>	04	--	--	50	50	--	--	--	100	04	--
210245	<u>Object Oriented Programming</u>	04	--	--	50	50	--	--	--	100	04	--
210246	<u>Digital Electronics Lab</u>	--	--	02	--	--	25	50	--	75	--	01
210247	<u>Data Structures Lab</u>	--	--	04	--	--	25	50	--	75	--	02
210248	<u>Object Oriented Programming Lab</u>	--	--	02	--	--	25	50	--	75	--	01
210249	<u>Soft Skills</u>	--	--	02	--	--	25	--	--	25	--	01
Total											20	05
210250	<u>Audit Course 1</u>	--	--	--	--	--	--	--	--	--	Grade	
Total		20	--	10	250	250	100	150	--	750	25	

Abbreviations:

TW: Term Work
OR: Oral
PR: Practical

TH: Theory
TUT: Tutorial
Sem: Semester

Savitribai Phule Pune University												
Second Year of Computer Engineering (2015 Course)												
(With effect from Academic Year 2016-17)												
Semester II												
Course Code	Course Name	Teaching Scheme Hours / Week			Examination Scheme & Marks						Credits	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH+TUT	PR
207003	<u>Engineering Mathematics III</u>	04	01	--	50	50	25	--	--	125	05	--
210251	<u>Computer Graphics</u>	04	--	--	50	50	--	--	--	100	04	--
210252	<u>Advanced Data Structures</u>	04	--	--	50	50	--	--	--	100	04	--
210253	<u>Microprocessor</u>	04	--	--	50	50	--	--	--	100	04	--
210254	<u>Principles of Programming Languages</u>	03	--	--	50	50	--	--	--	100	03	--
210255	<u>Computer Graphics Lab</u>	--	--	02	--	--	25	50	--	75	--	01
210256	<u>Advanced Data Structures Lab</u>	--	--	04	--	--	25	50	--	75	--	02
210257	<u>Microprocessor Lab</u>	--	--	04	--	--	25	50	--	75	--	02
Total											20	05
210258	<u>Audit Course 2</u>		--	--	--	--	--	--	--	--	Grade	
Total		19	01	10	250	250	100	150	--	750	25	

Abbreviations:

TW: Term Work
OR: Oral
PR: Practical

TH: Theory
TUT: Tutorial
Sem: Semester

Savitribai Phule University of Pune													
Third Year Computer Engineering (2015 Course)													
(with effect from 2017-18)													
Semester I													
Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit		
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/ TUT	PR	
310241	<u>Theory of Computation</u>	03	--	--	30	70	--	--	--	100	03	--	
310242	<u>Database Management Systems (DBMS)</u>	03	--	--	30	70	--	--	--	100	03	--	
310243	<u>Software Engineering & Project Management</u>	03	--	--	30	70	--	--	--	100	03	--	
310244	<u>Information Systems & Engineering Economics</u>	03	--	--	30	70	--	--	--	100	03	--	
310245	<u>Computer Networks (CN)</u>	04	--	--	30	70	--	--	--	100	04	--	
310246	<u>Skills Development Lab</u>	--	02	04	--	--	50	--	50	100	02	02	
310247	<u>DBMS Lab</u>	--	--	04	--	--	25	50	--	75	--	02	
310248	<u>CN Lab</u>	--	--	02	--	--	25	50	--	75	--	01	
Total Credit											18	05	
Total		16	02	10	150	350	100	100	50	750	23		
310249	<u>Audit Course 3</u>											Grade	

310249-Audit Course 3 (AC3) Options:

AC3-I: Cyber Security

AC3-II: Professional Ethics and Etiquettes

AC3-III: Emotional Intelligence

AC3-IV: MOOC- Learn New Skills

AC3-V: Foreign Language (Japanese- Module 3)

Abbreviations:

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

Savitribai Phule University of Pune													
Third Year Computer Engineering (2015 Course)													
(with effect from 2017-18)													
Semester II													
Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit		
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TUT	PR	
310250	<u>Design & Analysis of Algorithms</u>	04	--	--	30	70	--	--	--	100	04		
310251	<u>Systems Programming & Operating System (SP & OS)</u>	04	--	--	30	70	--	--	--	100	04	--	
310252	<u>Embedded Systems & Internet of Things (ES & IoT)</u>	04	--	--	30	70	--	--	--	100	04	--	
310253	<u>Software Modeling and Design</u>	03	--	--	30	70	--	--	--	100	03	--	
310254	<u>Web Technology</u>	03	--	--	30	70	--	--	--	100	03	--	
310255	<u>Seminar & Technical Communication</u>	--	01	--	--	--	50	--	--	50	01	--	
310256	<u>Web Technology Lab</u>	--	--	02	--	--	25	50	--	75	--	01	
310257	<u>SP & OS Lab</u>	--	--	04	--	--	25	50	--	75	--	02	
310258	<u>ES & IoT Lab</u>	--	--	02	--	--	50	--	--	50	--	01	
Total Credit											19	04	
Total		18	01	08	150	350	150	100	--	750	23		
310259	<u>Audit Course 4</u>											Grade	

310259-Audit Course 4(AC4) Options:

AC4-I: Digital and Social Media Marketing

AC4-II: Green Computing

AC4-III: Sustainable Energy Systems

AC4-IV: Leadership and Personality Development

AC4-V: Foreign Language (Japanese- Module 4)

Abbreviations:

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

SAVITRIBAI PHULE PUNE UNIVERSITY
BE (COMPUTER ENGINEERING)- 2012 COURSE STRUCTURE
Term-I

Subject Code	Subject	Teaching Scheme			Examination Scheme				Total Marks
		Lect	Tut	Pract	In Sem Asmnt	PR/TW	OR/TW	End Sem Asmnt	
410441	Design & Analysis of Algorithms	03	—	—	30	—	—	70	100
410442	Principles of Modern Compiler Design	04	—	—	30	—	—	70	100
410443	Smart System Design and Applications	03	—	—	30	—	—	70	100
410444	Elective-I	03	—	—	30	—	—	70	100
410445	Elective-II	03	—	—	30	—	—	70	100
410446	Computer laboratory-I	—	—	04	—	50	50	—	100
410447	Computer Laboratory-II	—	—	04	—	50	50	—	100
410448	Project	—	02	—	—	50	—	—	50
	Total	16	02	08	150	150	100	350	750
	Term-II								
410449	Software Design Methodologies & Testing	03	—	—	30	—	—	70	100
410450	High Performance Computing	03	—	—	30	—	—	70	100
410451	Elective-III	03	—	—	30	—	—	70	100
410452	Elective-IV Open Elective	03	—	—	30	—	—	70	100
410453	Computer laboratory-III	—	—	04	—	50	50	—	100
410454	Computer Laboratory-IV	—	—	04	—	50	50	—	100
410455	Project	—	06	—	—	50	100	—	150
	Total	12	06	08	120	150	200	280	750

Electives:

Semester-I		Semester-II	
	ELECTIVE-I		ELECTIVE-III
1.	Image Processing	1.	Mobile Computing
2.	Computer Network Design and Modeling	2.	Web Technology
3.	Advanced Computer Programming	3.	Cloud Computing
4.	Data Mining Techniques and Applications	4.	Cyber Security
	ELECTIVE-II		ELECTIVE-IV (Open Elective)
1.	Problem Solving with Gamification	1.	Business Analytic and Intelligence
2.	Pervasive Computing	2.	Operations Research for Algorithms in Scientific Applications
3.	Embedded Security	3.	Mobile Applications
4.	Multidisciplinary NLP	4.	Open Elective

Open Elective: The listed open electives or any other Elective that is being taught in the current semester (semester-II) under the faculty of engineering or individual college and Industry can define new elective with complete (6 units) syllabus using defined framework of Elective IV and GET IT APPROVED FROM THE BOARD OF STUDIES (COMPUTER ENGINEERING) AND OTHER NECESSARY STATUTORY SYSTEMS IN THE SAVITRIBAI PHULE PUNE UNIVERSITY BEFORE 30th DECEMBER.

SAVITRIBAI PHULE PUNE UNIVERSITY
BE (COMPUTER ENGINEERING)- 2012 COURSE STRUCTURE

Term-I

Subject Code	Subject	Teaching Scheme			Examination Scheme				Total Marks
		Lect	Tut	Pract	In Sem Asmnt	PR/TW	OR/TW	End Sem Asmnt	
410441	Design & Analysis of Algorithms	03	—	—	30	—	—	70	100
410442	Principles of Modern Compiler Design	04	—	—	30	—	—	70	100
410443	Smart System Design and Applications	03	—	—	30	—	—	70	100
410444	Elective-I	03	—	—	30	—	—	70	100
410445	Elective-II	03	—	—	30	—	—	70	100
410446	Computer laboratory-I	—	—	04	—	50	50	—	100
410447	Computer Laboratory-II	—	—	04	—	50	50	—	100
410448	Project	—	02	—	—	50	—	—	50
	Total	16	02	08	150	150	100	350	750
	Term-II								
410449	Software Design Methodologies & Testing	03	—	—	30	—	—	70	100
410450	High Performance Computing	03	—	—	30	—	—	70	100
410451	Elective-III	03	—	—	30	—	—	70	100
410452	Elective-IV Open Elective	03	—	—	30	—	—	70	100
410453	Computer laboratory-III	—	—	04	—	50	50	—	100
410454	Computer Laboratory-IV	—	—	04	—	50	50	—	100
410455	Project	—	06	—	—	50	100	—	150
	Total	12	06	08	120	150	200	280	750

Electives:

Semester-I		Semester-II	
ELECTIVE-I		ELECTIVE-III	
1.	Image Processing	1.	Mobile Computing
2.	Computer Network Design and Modeling	2.	Web Technology
3.	Advanced Computer Programming	3.	Cloud Computing
4.	Data Mining Techniques and Applications	4.	Cyber Security
ELECTIVE-II		ELECTIVE-IV (Open Elective)	
1.	Problem Solving with Gamification	1.	Business Analytic and Intelligence
2.	Pervasive Computing	2.	Operations Research for Algorithms in Scientific Applications
3.	Embedded Security	3.	Mobile Applications
4.	Multidisciplinary NLP	4.	Open Elective

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SAVITRIBAI PHULE PUNE UNIVERSITY
BE (COMPUTER ENGINEERING)- 2012 COURSE STRUCTURE

Term-I

Subject Code	Subject	Teaching Scheme			Examination Scheme				Total Marks
		Lect	Tut	Pract	In Sem Asmnt	PR/TW	OR/TW	End Sem Asmnt	
410441	Design & Analysis of Algorithms	03	—	—	30	—	—	70	100
410442	Principles of Modern Compiler Design	04	—	—	30	—	—	70	100
410443	Smart System Design and Applications	03	—	—	30	—	—	70	100
410444	Elective-I	03	—	—	30	—	—	70	100
410445	Elective-II	03	—	—	30	—	—	70	100
410446	Computer laboratory-I	—	—	04	—	50	50	—	100
410447	Computer Laboratory-II	—	—	04	—	50	50	—	100
410448	Project	—	02	—	—	50	—	—	50
	Total	16	02	08	150	150	100	350	750
	Term-II								
410449	Software Design Methodologies & Testing	03	—	—	30	—	—	70	100
410450	High Performance Computing	03	—	—	30	—	—	70	100
410451	Elective-III	03	—	—	30	—	—	70	100
410452	Elective-IV Open Elective	03	—	—	30	—	—	70	100
410453	Computer laboratory-III	—	—	04	—	50	50	—	100
410454	Computer Laboratory-IV	—	—	04	—	50	50	—	100
410455	Project	—	06	—	—	50	100	—	150
	Total	12	06	08	120	150	200	280	750

Electives:

Semester-I		Semester-II	
ELECTIVE-I		ELECTIVE-III	
1.	Image Processing	1.	Mobile Computing
2.	Computer Network Design and Modeling	2.	Web Technology
3.	Advanced Computer Programming	3.	Cloud Computing
4.	Data Mining Techniques and Applications	4.	Cyber Security
ELECTIVE-II		ELECTIVE-IV (Open Elective)	
1.	Problem Solving with Gamification	1.	Business Analytic and Intelligence
2.	Pervasive Computing	2.	Operations Research for Algorithms in Scientific Applications
3.	Embedded Security	3.	Mobile Applications
4.	Multidisciplinary NLP	4.	Open Elective

Open Elective: The listed open electives or any other Elective that is being taught in the current semester (semester-II) under the faculty of engineering or individual college and Industry can define new elective with complete (6 units) syllabus using defined framework of Elective IV and GET IT APPROVED FROM THE BOARD OF STUDIES (COMPUTER ENGINEERING) AND OTHER NECESSARY STATUTORY SYSTEMS IN THE SAVITRIBAI PHULE PUNE UNIVERSITY BEFORE 30th DECEMBER.

BE (COMPUTER ENGINEERING)- 2008 COURSE STRUCTURE

Term-I

Subject Code	Subject	Teaching Scheme		Examination Scheme				Total Marks
		Lect.	Pract.	Th	TW	Pr	Or	
410441	Design & Analysis of Algorithms	04		100		—		100
410442	Principles of Compiler Design	04	—	100	—	—	—	100
410443	Object Oriented Modeling & Design	04	02	100	25	—	50	175
410444	Elective-I	03	02	100	25	—	50	175
410445	Elective-II	03		100	----	—	---	100
410446	Computer Laboratory-I	—	04	—	----	50	—	050
410447	Project Work	---	02	---	50	---	---	050
	Total	18	10	500	100	50	100	750
	Total of Part I (A)	28 Hrs		750				

Term II

Subject Code	Subject	Teaching Scheme		Examination Scheme				Total Marks
		Lect.	Pract	Th	TW	Pr	Or	
410448	Distributed Operating Systems	04	---	100	---	---	---	100
410449	Advanced Computer Architecture	04		100				100
410450	Elective-III	04	02	100	50	—	50	200
410451	Elective-IV	04	---	100	---	—	---	100
410452	Computer Laboratory II	—	04	—	50	50	—	100
410447	Project Work	—	06	—	100	—	50	150
	Total	16	12	400	200	50	100	750
	Total of Part II (B)	28 Hrs		750				
	Grand Total (A+B)			1500				

Th: Theory TW: Term Work

Pr: Practical Or: Oral

Elective I

- 1) Image Processing
- 2) Design & Analysis of Computer Networks
- 3) Artificial Intelligence
- 4) Software Architecture

Elective III

- 1) Pattern Recognition
- 2) High Performance networks
- 3) Neural Networks
- 4) Advanced Databases

Elective II

- 1) Multimedia Systems
- 2) Mobile Computing
- 3) Embedded Systems
- 4) Software Testing & Quality Assurance

Elective IV

- 1) VLSI & Digital System Design
 - 2) Operations Research
 - 3) Cloud Computing
 - 4) Information Security
- or Open Elective

Open Elective: Any other Electives that are being taught in Term II under the Faculty of Engineering or individual college and Industry, together, can define new elective using framework of Elective IV defined in syllabus structure and GET IT APPROVED FROM BOARD OF STUDIES COMPUTER ENGINEERING AND OTHER NECESSARY STATUTORY SYSTEMS IN THE UNIVERSITY OF PUNE BEFORE 30th DECEMBER.

The BE Project Term work assessment for Term I will be done by selecting panel of examiners amongst senior teachers of Computer Engineering. Existing prevailing practices are followed for all remaining examinations and assessment work.

BE (COMPUTER ENGINEERING)- 2008 COURSE STRUCTURE

Term-I

Subject Code	Subject	Teaching Scheme		Examination Scheme				Total Marks
		Lect.	Pract.	Th	TW	Pr	Or	
410441	Design & Analysis of Algorithms	04		100		—		100
410442	Principles of Compiler Design	04	—	100	—	—	—	100
410443	Object Oriented Modeling & Design	04	02	100	25	—	50	175
410444	Elective-I	03	02	100	25	—	50	175
410445	Elective-II	03		100	----	—	---	100
410446	Computer Laboratory-I	—	04	—	----	50	—	050
410447	Project Work	---	02	---	50	---	---	050
	Total	18	10	500	100	50	100	750
	Total of Part I (A)	28 Hrs		750				

Term II

Subject Code	Subject	Teaching Scheme		Examination Scheme				Total Marks
		Lect.	Pract	Th	TW	Pr	Or	
410448	Distributed Operating Systems	04	—	100	---	---	---	100
410449	Advanced Computer Architecture	04		100				100
410450	Elective-III	04	02	100	50	—	50	200
410451	Elective-IV	04	---	100	---	—	---	100
410452	Computer Laboratory II	—	04	---	50	50	—	100
410447	Project Work	—	06	—	100	—	50	150
	Total	16	12	400	200	50	100	750
	Total of Part II (B)	28 Hrs		750				
	Grand Total (A+B)			1500				

Th: Theory TW: Term Work

Pr: Practical Or: Oral

Elective I

- 1) Image Processing
- 2) Design & Analysis of Computer Networks
- 3) Artificial Intelligence
- 4) Software Architecture

Elective III

- 1) Pattern Recognition
- 2) High Performance networks
- 3) Neural Networks
- 4) Advanced Databases

Elective II

- 1) Multimedia Systems
- 2) Mobile Computing
- 3) Embedded Systems
- 4) Software Testing & Quality Assurance

Elective IV

- 1) VLSI & Digital System Design
 - 2) Operations Research
 - 3) Cloud Computing
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- or Open Elective

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