



BE Computer Engineering 2019 Course tentative Curriculum structure:

Savitribai Phule Pune University Fourth Year of Computer Engineering (2019 Course) (With effect from Academic Year 2022-23)														
Semester VII														
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/Pre	Total	Lecture	Practical	Tutorial	Total
410241	<u>Design and Analysis of Algorithms</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410242	<u>Machine Learning</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410243	<u>Blockchain Technology</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410244	<u>Elective III</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410245	<u>Elective IV</u>	03	-	-	30	70	-	-	-	100	3	-	-	3
410246	<u>Laboratory Practice III</u>	-	04	-	-	-	50	50	-	100	-	2	-	2
410247	<u>Laboratory Practice IV</u>	-	02	-	-	-	50	-	-	50	-	1	-	1
410248	<u>Project Stage I</u>	-	02	-	-	-	50	-	-	50	-	2	-	2
Total Credit											15	05	-	20
Total		15	08	-	150	350	150	50	-	700	15	05	-	20
410249	<u>Audit Course 7</u>										Grade			
Elective III					Elective IV									
410244(A) <u>Pervasive Computing</u> 410244(B) <u>Multimedia Techniques</u> 410244(C) <u>Cyber Security and Digital Forensics</u> 410244(D) <u>Object Oriented Modeling and Design</u> 410244(E) <u>Digital Signal Processing</u>					410245(A) <u>Information Retrieval</u> 410245(B) <u>GPU Programming and Architecture</u> 410245(C) <u>Mobile Computing</u> 410245(D) <u>Software Testing and Quality Assurance</u> 410245(E) <u>Compilers</u>									
Laboratory Practice III: Laboratory assignments Courses- 410241, 410242, 410243					Laboratory Practice IV: Laboratory assignments Courses- 410244, 410245									
Audit Course 7(AC7) Options: AC7- I <u>MOOC- Learn New Skills</u> AC7- II <u>Entrepreneurship Development</u> AC7- III <u>Botnet of Things</u> AC7- IV <u>3D Printing</u> AC7- V <u>Industrial Safety and Environment Consciousness</u>														

Savitribai Phule Pune University
Final Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)

Semester VIII

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/Pre	Total	Lecture	Practical	Tutorial	Total
410250	High Performance Computing	03	-	-	30	70	-	-	-	100	03			03
410251	Deep Learning	03	-	-	30	70	-	-	-	100	03			03
410252	Elective V	03	-	-	30	70	-	-	-	100	03			03
410253	Elective VI	03	-	-	30	70	-	-	-	100	03			03
410254	Laboratory Practice V	-	02	-	-	-	50	50	-	100		01		01
410255	Laboratory Practice VI	-	02	-	-	-	50	-	-	50		01		01
410256	Project Stage II	-	06	-	-	-	100	-	50	150		06		06
Total Credit											12	08	-	20
Total		12	10	-	120	280	200	50	50	700	12	08	-	20
410257	Audit Course 8													
Grade														
Elective V							Elective VI							
410252(A) Natural Language Processing							410253(A) Pattern Recognition							
410252(B) Image Processing							410253(B) Soft Computing							
410252(C) Software Defined Networks							410253(C) Business Intelligence							
410252(D) Advanced Digital Signal Processing							410253(D) Quantum Computing							
410252(E) Open Elective I							410253(E) Open Elective II							
Lab Practice V:							Lab Practice VI:							
Laboratory assignments Courses- 410250, 410251							Laboratory assignments Courses- 410252, 410253							
Audit Course 8(AC8) Options: AC8- I Usability Engineering AC8- II Conversational Interfaces AC8- III Social Media and Analytics AC8- IV MOOC- Learn New Skills AC8- V Emotional Intelligence														

Savitribal Phule Pune University, Pune
BE (Civil Engineering) 2019 Pattern
(With effect from Academic Year 2022-23)

SEMESTER: VII

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
401001	Foundation Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401002	Transportation Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401003	Elective III	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401004	Elective IV	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401005	Project Stage I	--	04	--	--	--	50	--	50	100	--	01	--	02	--	03
401006	Transportation Engineering Lab	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401007	Elective III Lab	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401008	Elective IV Lab	--	02	--	--	--	50	--	--	50	--	--	--	01	--	01
401009	Computer Programming in Civil Engineering	01	02	--	--	--	50	--	--	50	--	01	--	--	--	01
401010	Audit Course I Stress Management by Yoga / Communication Etiquette in Workplaces	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
Total		13	12	01	120	280	150	--	150	700	12	04	--	04	--	20

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

Elective III and IV

S N	Course Code	Elective III: Course Name	Course Code	Elective IV: Course Name
01	401003 a	Coastal Engineering	401004 a	Air Pollution and Control
02	401003 b	Advanced Design of Concrete Structures	401004 b	Advanced Design of Steel Structures
03	401003 c	Integrated Water Resources Planning & Management	401004 c	Statistical Analysis and Computational Method
04	401003 d	Finite Element Method	401004 d	Airport and Bridge Engineering
05	401003 e	Data Analytics	401004 e	Design of Prestressed Concrete Structures
06	401003 f	Operation Research	401004 f	Formwork and Plumbing Engineering

SEMESTER-VIII																
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
401011	Dams and Hydraulics Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401012	Quantity Surveying, Contracts and Tenders	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401013	Elective V	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401014	Elective VI	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401015	Project Stage II	--	10	--	--	--	100	--	50	150	--	03	--	--	--	03
401016	Dams and Hydraulics Structures Lab	--	02	--	--	--	--	50	50	--	--	03	--	02	--	05
401017	Quantity Surveying, Contracts and Tenders Lab	--	02	--	--	--	--	50	50	--	--	--	01	--	--	01
401018	Elective V Lab	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
401019	Audit Course II Social Responsibility / Human Rights	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
Total		12	16	01	120	280	150	--	150	700	12	04	--	04	--	20

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Elective V and VI

SN	Course Code	Elective V: Course Name	Course Code	Elective VI: Course Name
01	401013 a	Earthquake Engineering	401014 a	TQM and MIS
02	401013 b	Structural Design of Bridges	401014 b	Advanced Transportation Engineering
03	401013 c	Irrigation and Drainage	401014 c	Geo Synthetic Engineering
04	401013 d	Design of Precast and Composite Structures	401014 d	Structural Design of Foundations
05	401013 e	Hydropower Engineering	401014 e	Green Structures and Smart Cities
06	401013 f	Structural Audit and Retrofitting of Structures	401014 f	Rural Water Supply and Sanitation

Savitribai Phule Pune University
Board of Studies - Mechanical and Automobile Engineering
 Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks					Credit				
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-VII														
402041	Heating Ventilation Air-Conditioning and Refrigeration	3	2	-	30	70	-	-	25	125	3	1	-	4
402042	Dynamics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
402043	Turbomachinery*	3	2	-	-	50	25	-	25	100	2	1	-	3
402044	Elective - III	3	-	-	30	70	-	-	-	100	3	-	-	3
402045	Elective - IV	3	-	-	30	70	-	-	-	100	3	-	-	3
402046	Data Analytics Laboratory	-	2	-	-	-	-	-	-	100	3	-	-	3
402047	Project (Stage - I)	-	4	-	-	-	50	-	-	50	-	1	-	1
402054	Audit Course VII*	-	-	-	-	-	-	50	-	50	-	2	-	2
Total		14	12	-	120	330	125	-	125	700	14	6	-	20
Semester-VIII														
402048	Computer Integrated Manufacturing	3	2	-	30	70	25	-	25	150	3	1	-	4
402049	Energy Engineering	3	2	-	30	70	25	-	25	150	3	1	-	4
402050	Elective - V	3	-	-	30	70	-	-	-	100	3	-	-	3
402051	Elective - VI	3	-	-	30	70	-	-	-	100	3	-	-	3
402052	Mechanical Systems Analysis Laboratory	-	2	-	-	-	-	-	-	100	3	-	-	3
402053	Project (Stage - II)	-	10	-	-	-	25	-	25	50	-	1	-	1
402055	Audit Course VIII*	-	-	-	-	-	-	50	-	50	-	5	-	5
Total		12	16	-	120	280	175	-	125	700	12	8	-	20
Elective-III														
402044A	Automobile Design													
402044B	Design of Heat Transfer Equipments													
402044C	Modern Machining Processes													
402044D	Industrial Engineering													
402044E	Internet of Things													
402044F	Computational Fluid Dynamics													
Elective-IV														
402045A	Product Design and Development													
402045B	Experimental Methods in Thermal Engineering													
402045C	Additive Manufacturing													
402045D	Operations Research													
402045E	Augmented Reality and Virtual Reality													
Elective-V														
402050A	Quality and Reliability Engineering													
402050B	Energy Audit and Management													
402050C	Manufacturing Systems and Simulation													
402050D	Engineering Economics and Financial Management													
402050E	Organizational Informatics													
402050F	Computational Multi-Body Dynamics													
Elective-VI														
402051A	Process Equipment Design													
402051B	Renewable Energy Technologies													
402051C	Automation and Robotics													
402051D	Industrial Psychology and Organizational Behavior													
402051E	Electrical and Hybrid Vehicle													
Audit Courses														
402054A	Yoga Practices													
402055A	Managing Innovation													
402054B	Stress Management													
402055B	Operations Management													

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- Student can select any elective subjects from the list given as per his/her choice. However, it is advised to select the subjects from within a group identified for specialization.


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Pune- 410501

ANNEXURE I

GENERIC CORE (GC) COURSES – 3 Credits Each

50 Marks FORMATIVE ASSESSMENT, 50 Marks SUMMATIVE EVALUATION			
Course No.	Course Code	Course	Semester
101	GC – 01	Managerial Accounting	I
102	GC – 02	Organizational Behaviour	I
103	GC – 03	Economic Analysis for Business Decisions	I
104	GC – 04	Business Research Methods	I
105	GC – 05	Basics of Marketing	I
106	GC – 06	Digital Business	I
201	GC – 07	Marketing Management	II
202	GC – 08	Financial Management	II
203	GC – 09	Human Resources Management	II
204	GC – 10	Operations & Supply Chain Management	II
301	GC – 11	Strategic Management	III
302	GC – 12	Decision Science	III
303	GC – 13	Summer Internship Project*	III
401	GC – 14	Enterprise Performance Management	IV
402	GC – 15	Indian Ethos & Business Ethics	IV

* Six Credits


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GENERIC ELECTIVES UNIVERSITY LEVEL (GE – UL) COURSES – 2 Credits Each			
00 Marks FORMATIVE ASSESSMENT , 50 Marks SUMMATIVE EVALUATION			
Course #	Course Code	Course	Semester
Any 3 courses to be selected from the following list in Semester I			
107	GE - UL - 01	Management Fundamentals	I
108	GE - UL - 02	Indian Economy	I
109	GE - UL - 03	Entrepreneurship Development	I
110	GE - UL - 04	Essentials of Psychology for Managers	I
111	GE - UL - 05	Legal Aspects of Business	I
112	GE - UL - 06	Demand Analysis & Forecasting	I
Any 3 courses to be selected from the following list in Semester II			
207	GE - UL - 07	Contemporary Frameworks in Management	II
208	GE - UL - 08	Geopolitics & World Economic Systems	II
209	GE - UL - 09	Start Up and New Venture Management	II
210	GE - UL - 10	Qualitative Research Methods	II
211	GE - UL - 11	Business, Government & Society	II
212	GE - UL - 12	Business Process Re-engineering	II
Any 3 courses to be selected from the following list in Semester III			
306	GE - UL - 13	International Business Economics	III
307	GE - UL - 14	International Business Environment	III
308	GE - UL - 15	Project Management	III
309	GE - UL - 16	Knowledge Management	III
310	GE - UL - 17	Corporate Governance	III
311	GE - UL - 18	Management of Non-profit organizations	III
Any 2 courses to be selected from the following list in Semester IV			
405	GE - UL - 19	Global Strategic Management	IV
406	GE - UL - 20	Technology Competition and Strategy	IV
407	GE - UL - 21	Cyber Laws	IV
408	GE - UL - 22	Corporate Social Responsibility & Sustainability	IV


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GENERIC ELECTIVES INSTITUTE LEVEL (GE - IL) COURSES - 2 Credits Each			
50 Marks FORMATIVE ASSESSMENT , 00 Marks SUMMATIVE EVALUATION			
Course No.	Course Code	Course	Semester
Maximum 3 courses to be selected from the following list in Semester I			
113	GE - IL - 01	Verbal Communication Lab	I
114	GE - IL - 02	Enterprise Analysis & Desk Research	I
115	GE - IL - 03	Selling & Negotiation Skills Lab	I
116	GE - IL - 04	MS Excel	I
117	GE - IL - 05	Business Systems & Procedures	I
118	GE - IL - 06	Managing Innovation	I
119	GE - IL - 07	Foreign Language - I	I
Maximum 1 course to be selected from the following list in Semester II			
213	GE - IL - 08	Written Analysis and Communication Lab	II
214	GE - IL - 09	Industry Analysis & Desk Research	II
215	GE - IL - 10	Entrepreneurship Lab	II
216	GE - IL - 11	SPSS	II
217	GE - IL - 12	Foreign Language - II	II


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