



Rajgad Dnyanpeeth's

SHRI CHHATRAPATI SHIVAJIRAJE COLLEGE OF ENGINEERING

Gat No. 237, Pune Bangalore Highway, Dhangawadi, Tal – Bhor, Dist- Pune (Maharashtra)

Criterion1 – Curricular Aspects

Key Indicator – 1.2 Academic Flexibility-

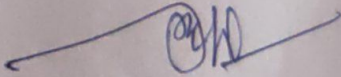
1.2.1. Number of Programs in which Choice Based Credit System (CBCS)/ elective course system has been implemented during the academic year 2020-21

Year	Number of Programs Offered
2020-21	18

Name of programmes Adopting CBCS/Elective course system	Programme Specifications	Date of Implementation of CBCS/Elective course system
BE	Architecture and Town Planning 401004 Elective I (Civil Engineering)	15-07-2020
BE	TQM & MIS In Civil Engg 401005 Elective II (Civil Engineering)	15-07-2020
BE	Hydropower Engineering 401009 Elective III (Civil Engineering)	01-02-2021
BE	Construction Management 401 010 Elective IV (Civil Engineering)	01-02-2021
BE	Software Architecture and Design 410244 Elective I (Computer Engineering)	15-07-2020
BE	Data Mining and Warehousing 410244 Elective I (Computer Engineering)	15-07-2020

BE	Software Testing and Quality Assurance 410245 Elective II (Computer Engineering)	01-02-2021
BE	Embedded and Real Time Operating Systems 410252 Elective III (Computer Engineering)	01-02-2021
BE	Cloud Computing 410253 (C) Elective IV (Computer Engineering)	01-02-2021
BE	Internet of Things 404184 Elective I (E&TC Engineering)	15-07-2020
BE	Electronics Product Design 404185 Elective I (E&TC Engineering)	15-07-2020
BE	Audio Video Engineering 404191 Elective III (E&TC Engineering)	01-02-2021
BE	Wireless Sensor Networks 404192 Elective IV (E&TC Engineering)	01-02-2021
BE	Heating Ventilation and Air Conditioning 402044 Elective I (Mechanical Engineering)	15-07-2020
BE	Finite Element Analysis 402044 Elective I (Mechanical Engineering)	15-07-2020
BE	Automobile Engineering 402045 Elective II (Mechanical Engineering)	15-07-2020
BE	Industrial Engineering 402049 Elective III (Mechanical Engineering)	01-02-2021
BE	Advanced Manufacturing Processes 402050 Elective III (Mechanical Engineering)	01-02-2021




Prof. Dr.S. B.Patil
Principal

Rajgad Dnyanpeeth's
Shri Chhatrapati Shivajiraje College of Engg.,
Dhangawadi, Pune-412206

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			In-Semester Assessment	TW	Pract /Or	End-Semester Exam	Total	Credit	
		Hrs/Week								Th	Lab
		Lect	Tu	Pr							
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	100	150	350	750	16	6
										22 Credits	

Semester-II											
Subject code	Subject	Teaching Scheme			In-Semester Assessment	TW	Or	End-Semester Exam	Total	Credit	
		Hrs/Week								Th	Pr
		Lect	Tu	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	



Following will be the list of electives.

Semester I

Elective-I 401 004	Elective-II 401 005
1. Structural Design of Bridges	1. Matrix Methods of Structural Analysis
2. Systems Approach in Civil Engineering	2. Integrated Water Resources Planning and Management
3. Advanced Concrete Technology	3. TQM & MIS in Civil Engineering
4. Architecture and Town Planning	4. Earthquake Engineering
5. Advanced Engineering Geology with Rock Mechanics	5. Advanced Geotechnical Engineering

Semester-II

Elective-III 401 009	Elective-IV 401 010
1. Advanced Structural Design	1. Construction Management
2. Statistical Analysis and Computational Methods in Civil Engineering	2. Advanced Transportation Engineering
3. Hydropower Engineering	3. Advanced foundation Engineering.
4. Air Pollution and control	4. Coastal Engineering
5. Finite Element Method in Civil Engineering	5. Open Elective
6. Airport and Bridge Engineering	a) Plumbing Engineering
	b) Green Building Technology
	c) Ferrocement Technology
	d) Sub sea Engineering
	e) Geoinformatics



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	High Performance Computing	04	--	30	70	--	--	--	100	04	--	
410242	Artificial Intelligence and Robotics	03	--	30	70	--	--	--	100	03	--	
410243	Data Analytics	03	--	30	70	--	--	--	100	03	--	
410244	Elective I	03	--	30	70	--	--	--	100	03	--	
410245	Elective II	03	--	30	70	--	--	--	100	03	--	
410246	Laboratory Practice I	--	04	--	--	50	50	--	100	--	02	
410247	Laboratory Practice II	--	04	--	--	50	--	*50	100	--	02	
410248	Project Work Stage I	--	02	--	--	--	--	*50	50	--	02	
Total Credit										16	06	
Total		16	10	150	350	100	50	100	750	22		
410249	Audit Course 5										Grade	

Elective I

Elective II

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 Development

AC5-IV: Industrial Safety and Environment Consciousness

AC5-II: Botnet of Things

AC5-V: Emotional Intelligence

AC5-III: 3D Printing

AC5-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	--	06	
Total Credit										12	10	
Total		12	14	120	280	200	50	100	750	22		
410257	Audit Course 6										Grade	
Elective III						Elective IV						
410252 (A) Advanced Digital Signal Processing						410253 (A) Software Defined Networks						
410252 (B) Compilers						410253 (B) Human Computer Interface						
410252 (C) Embedded and Real Time Operating Systems						410253 (C) Cloud Computing						
410252 (D) Soft Computing and Optimization Algorithms						410253 (D) Open Elective						

410259-Audit Course 6 (AC6) Options:

AC6-I: Business IntelligenceAC6-II: GamificationAC6-III: Quantum ComputingAC6-IV: Usability EngineeringAC6-V: Conversational InterfacesAC6-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
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	--	2
404187	Lab Practice -II (VLSI + Elective I)	--	--	4	--	--	50	50		100	--	2
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	
Elective I				Elective II				Audit Course 5				
1. Digital Image and Video Processing				1. Wavelets				1. Green Energy				
2. Industrial Drives and Control				2. Electronics Product Design				2. Human Behaviour				
3. Embedded Systems & RTOS				3. Optimization Techniques								
4. Internet of Things				4. Artificial Intelligence								
				5. Electronics in agriculture								



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 Marks							Credit	
		Hours / Week	Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	TH/TW	P R+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	--	--	4	--	--	50	50	--	100	--	2	
404194	Lab practice -IV (Ele III)	--	--	2	--	--	--	--	50	50	--	1	
404195	Project Stage II	--	6	-	--	--	150	--	50	200	--	6	
	Audit Course 6	--	--	--	--	--	--	--	--	--			
	Total	13	6	6	120	280	200	50	100	750	13	9	
Total Credits											22		

Elective III

Machine Learning
PLC s and Automation
Audio and Speech Processing
Software Defined Radio
Audio Video Engineering

Elective-IV

Robotics
Bio-Medical Electronics
Wireless Sensor Networks
Renewable Energy Systems
Open Elective*

Audit Course 6:

Team Building, Leadership and Fitness for Engineers
Environment and Disaster Management



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**