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	Design and Analysis of Algorithms	03	-	-	30	70	-	-	-	100	3	-	-	3
410242	Machine Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
410243	Blockchain Technology	03	-	-	30	70	-	-	-	100	3	-	-	3
410244	Elective III	03	-	-	30	70	-	-	-	100	3	-	-	3
410245	Elective IV	03	-	-	30	70	-	-	-	100	3	-	-	3
410246	Laboratory Practice III	-	04	-	-	-	50	50	-	100	-	2	-	2
410247	Laboratory Practice IV	-	02	-	-	-	50	-	-	50	-	1	-	1
410248	Project Stage I	-	02	-	-	-	50	-	-	50	-	2	-	2
										Total Credit	15	05	-	20
	Total	**15**	**08**	**-**	**150**	**350**	**150**	**50**	**-**	**700**	**15**	**05**	**-**	**20**
410249	Audit Course 7											Grade		

Elective III	**Elective IV**
410244(A) Pervasive Computing 410244(B) Multimedia Techniques 410244(C) Cyber Security and Digital Forensics 410244(D) Object Oriented Modeling and Design 410244(E) Digital Signal Processing	410245(A) Information Retrieval 410245(B) GPU Programming and Architecture 410245(C) Mobile Computing 410245(D)Software Testing and Quality Assurance 410245(E) Compilers
Laboratory Practice III: Laboratory assignments Courses- 410241, 410242, 410243	**Laboratory Practice IV:** Laboratory assignments Courses- 410244, 410245

Audit Course 7(AC7) Options:
AC7- I MOOC- Learn New Skills
AC7- II Entrepreneurship Development
AC7- III Botnet of Things
AC7- IV 3D Printing
AC7- V Industrial Safety and Environment Consciousness

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 410252(B) Image Processing 410252(C) Software Defined Networks 410252(D) Advanced Digital Signal Processing 410252(E) Open Elective I	410253(A) Pattern Recognition 410253(B) Soft Computing 410253(C) Business Intelligence 410253(D) Quantum Computing 410253(E) Open Elective II
Lab Practice V: Laboratory assignments Courses- 410250, 410251	**Lab Practice VI:** 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

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

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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	Database Management Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
310242	Theory of Computation	03	-	-	30	70	-	-	-	100	03	-	-	03
310243	Systems Programming and Operating System	03	-	-	30	70	-	-	-	100	03	-	-	03
310244	Computer Networks and Security	03	-	-	30	70	-	-	-	100	03	-	-	03
310245	Elective I	03	-	-	30	70	-	-	-	100	03	-	-	03
310246	Database Management Systems Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
310247	Computer Networks and Security Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310248	Laboratory Practice I	-	04	-	-	-	25	25	-	50	-	02	-	02
310249	Seminar and Technical Communication	-	-	01	-	-	50	-	-	50	-	-	01	01
	Total	**15**	**10**	**01**	**150**	**350**	**125**	**50**	**25**	**700**	**15**	**05**	**01**	**21**
310250	Audit Course 5													Grade
											Total Credit	**15**	**05**	**01**	**21**

310245 Elective I Options:

310245(A) Internet of Things and Embedded Systems
310245(B) Human Computer Interface
310245(C) Distributed Systems
310245(D) Software Project Management

310250 Audit Course 5 Options:

310250 (A) Cyber Security
310250 (B) Professional Ethics and Etiquettes
310250 (C) Learn New Skills
310250 (D) Engineering Economics
310250 (E) Foreign Language

Laboratory Practice I

Assignments from **Systems Programming and Operating System** and **Elective I**

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

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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
	Total	**12**	**10**	**-**	**120**	**280**	**225**	**50**	**25**	**700**	**12**	**09**	**-**	**21**
310259	Audit Course 6												**Grade**	
										Total	**12**	**09**	**-**	**21**

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.

$$ 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 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.**