



**Sinhgad Institutes**

**SINHGAD TECHNICAL EDUCATION SOCIETY'S®**

# **SMT. KASHIBAI NAVALE COLLEGE OF ENGINEERING®**

Approved by AICTE Vide F. No. 740-89-004 (NDEGAPR/ET/2000) &  
Affiliated to Savitribai Phule Pune University ID. No. PU/PN/ENG/155/2001  
Accredited by NBA & NACC

Recognized by UGC under Section 2 (f) & 12 (B) of UGC Act 1956

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**PROF. M. N. NAVALE**  
M.E. (Elect.), MIE, MBA.  
FOUNDER - PRESIDENT

**DR. (MRS.) SUNANDA M. NAVALE**  
B. A., M. P. M., Ph.D.  
FOUNDER - SECRETARY

**DR. A. V. DESHPANDE**  
B. E., M. E. (Computer Engg.), Ph. D.  
PRINCIPAL

Date: 11/04/2022

To,

The Director  
National Assessment and Accreditation Council (NAAC)  
P.O. Box No. 1075, Nagarbhavi,  
Bengaluru- 560 072

Subject: Proofs of Metric No. 1.3.1

Reference: Metric No: 1.3.1 **Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum**

Dear sir/ Madam,

No of the courses that address crosscutting issues & description of those courses is attached.

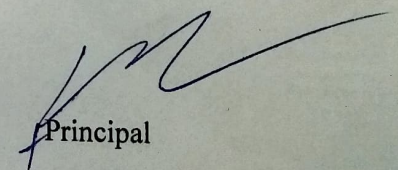
**No of the courses that address crosscutting issues (List attached) is =82**

List of the courses, description & relevant document (Highlighted in "Yellow") that address crosscutting issues are attached as follows:

## **INDEX**

Sr. No.	Description	Page No.
1	Computer Engineering	1 - 11
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Thanking You,

  
Principal  
(Dr. A. V. Deshpande)

Principal  
Smt. Kashibai Navale  
College of Engineering  
Vadgaon(Bk.), Pune - 41.




**Smt. Kashibai Navale College of Engineering, Pune**  
**Department of Computer Engineering**

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1. List of the courses that address crosscutting issues

Computer Engineering

Sr. No.	Core Course	Course No.	Course Name
1	SE Computer Engineering (2019)	210259	Code of Conduct
2	SE Computer Engineering (2019)	210260	Water Management
3	SE Computer Engineering (2019)	210260	The science of Happiness
4	SE Computer Engineering (2019)	210260	Stress Relief: Yoga and meditation
5	SE Computer Engineering (2019)	210260	Foreign Language (one of Japanese/Spanish/French/German). Course contents for Japanese (Module 2) are provided. For other languages institute may design suitably.
6	SE Computer Engineering (2019)	210250	Humanity and Social Science
7	SE Computer Engineering (2019)	210251	Green Construction and Design
8	SE Computer Engineering (2019)	210251	Social awareness and governance program
9	SE Computer Engineering (2019)	210251	Environmental studies
10	SE Computer Engineering (2019)	210251	Smart cities
11	TE Computer Engineering (2015)	310249	Foreign Language (Japanese- Module 3)
12	TE Computer Engineering (2015)	310249	Professional Ethics and Etiquettes
13	TE Computer Engineering (2015)	310259	Sustainable Energy Systems
14	TE Computer Engineering (2015)	310259	Leadership and Personality Development
15	TE Computer Engineering (2015)	310259	Green Computing
16	TE Computer Engineering (2015)	310259	Foreign Language (Japanese- Module 4)
17	BE Computer Engineering (2015)	410249	Entrepreneurship Development

  
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Department of Computer Engineering  
SKNCOE, Pune 411041






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2. Description of courses which address the crosscutting issues

Computer Engineering

Core Course	Course No.	Course Name	crosscutting issues	Description of course
SE Computer Engineering (2019)	210259	Code of Conduct	Ethics	The course promotes ethics, honesty and professionalism
SE Computer Engineering (2019)	210260	Water Management	Environment and Sustainability	The course contains study of global water cycle and factors that affect the water cycle also understand climate-change and its effect on water management
SE Computer Engineering (2019)	210260	The science of Happiness	Ethics, Gender, Human Values	After learning this course students will able understand feeling of happiness and study of sources of positive thinking
SE Computer Engineering (2019)	210260	Stress Relief: Yoga and meditation	Ethics, Gender, Human Values	This course focus on imparts the knowledge about the basic techniques and practice about yoga and meditation
SE Computer Engineering (2019)	210260	Foreign Language (one of Japanese/Spanish/French/German). Course contents for Japanese (Module 2) are provided. For other languages institute may design suitably.	Human Values	This course will make understand and use Japanese script to read and write, develop interest to pursue further study, work and leisure
SE Computer Engineering (2019)	210250	Humanity and Social Science	Human Values	The course focus on awareness to students about the various issues concerning human and society
SE Computer Engineering (2019)	210251	Green Construction and Design	Environment and Sustainability	The course motivates students to undertaking green construction project and increase the awareness of green construction issues.
SE Computer Engineering (2019)	210251	Social awareness and governance program	Ethics, Gender,	The course motivates to increase the community awareness about the social issues
SE Computer Engineering (2019)	210251	Environmental studies	Environment and Sustainability	This course will make understanding the importance of ecological balance for sustainable development


  
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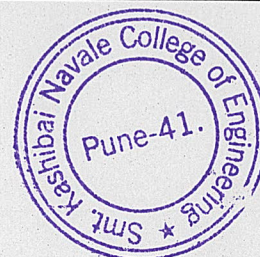




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**Department of Computer Engineering**

SE Computer Engineering (2019)	210251	Smart cities	Environment and Sustainability	This course helps to identify the urban problems and study effective and feasible ways to coordinate the urban technologies
TE Computer Engineering (2015)	310249	Foreign Language (Japanese-Module 3)	Human Values	This course will make understand and use Japanese script to read and write, develop interest to pursue further study, work and leisure
TE Computer Engineering (2015)	310249	Professional Ethics and Etiquettes	Human Values, Ethics	The course focus on importance of ethics and the rules of good behavior for today's most common social and business situations
TE Computer Engineering (2015)	310259	Sustainable Energy Systems	Environment and Sustainability	This course helps to identify the urban problems and study effective and feasible ways to coordinate the urban technologies society
TE Computer Engineering (2015)	310259	Leadership and Personality Development	Human Values, Ethics	The course focus on importance of ethics and the rules of good behavior for today's most common social and business situations
TE Computer Engineering (2015)	310259	Green Computing	Environment and Sustainability	motivate students to undertaking green construction project and increase the awareness of green construction issues
TE Computer Engineering (2015)	310259	Foreign Language (Japanese-Module 4)	Human Values, Ethics	This course will make understand and use Japanese script to read and write, develop interest to pursue further study, work and leisure
BE Computer Engineering (2015)	410249	Entrepreneurship Development	Human Values, Ethics, Environment and Sustainability	Core objective of this course is to expose technical students to the industrial environment, which cannot be simulated/experienced in the classroom and hence creating competent professionals in the industry and to understand the social, economic and administrative considerations that influence the working environment of industrial organizations.

  
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**Savitribai Phule Pune University**  
**Second Year of Computer Engineering (2019 Course)**  
**(With effect from Academic Year 2020-21)**

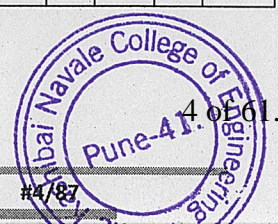
**Semester-III**

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
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
<b>Total Credit</b>											<b>15</b>	<b>06</b>	<b>01</b>	<b>22</b>
<b>Total</b>		<b>15</b>	<b>12</b>	<b>01</b>	<b>150</b>	<b>350</b>	<b>125</b>	<b>75</b>	<b>-</b>	<b>700</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Semester-IV**

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
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
<b>Total Credit</b>											<b>15</b>	<b>05</b>	<b>02</b>	<b>22</b>
<b>Total</b>		<b>15</b>	<b>10</b>	<b>02</b>	<b>150</b>	<b>350</b>	<b>150</b>	<b>25</b>	<b>25</b>	<b>700</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

  
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**Savitribai Phule Pune University**  
**Second Year of Engineering (2019 Course)**  
**210260: Audit Course 4**

Home

In addition to credits, it is recommended that there should be audit course in preferably in each semester starting from second year in order to supplement student's knowledge and skills. Student will be awarded the bachelor's degree if he/she earns specified total credits [1] and clears all the audit courses specified in the syllabus. The student will be awarded grade as AP on successful completion of audit course. The student may opt for one of the audit courses per semester, starting in second year first semester. Though not mandatory, such a selection of the audit courses helps the learner to explore the subject of interest in greater detail resulting in achieving the very objective of audit course's inclusion. List of options offered is provided. Each student has to choose one audit course from the list per semester. Evaluation of audit course will be done at institute level itself. Method of conduction and method of assessment for audit courses are suggested.

**Criteria:**

The student registered for audit course shall be awarded the grade AP (Audit Course Pass) and shall be included such AP grade in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the Savitribai Phule Pune University and satisfactory performance and secured a passing grade in that audit course. No grade points are associated with this 'AP' grade and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA. Evaluation of audit course will be done at institute level itself. [1]

**Guidelines for Conduction and Assessment** (Any one or more of following but not limited to):

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Lectures/ Guest Lectures</li> <li>• Visits (Social/Field) and reports</li> <li>• Demonstrations</li> </ul> | <ul style="list-style-type: none"> <li>• Surveys</li> <li>• Mini-Project</li> <li>• Hands on experience on focused topic</li> </ul> |
|---|---|


**Course Guidelines for Assessment** (Any one or more of following but not limited to):

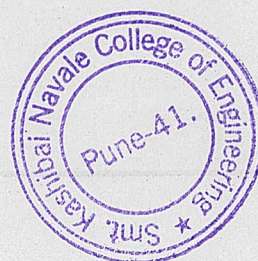
- Written Test
- Demonstrations/ Practical Test
- Presentations, IPR/Publication and Report

**Audit Course 4 Options**

Audit Course Code	Audit Course Title
AC4-I	Water Management
AC4-II	Intellectual Property Rights and Patents
AC4-III	The Science of Happiness
AC4-IV	Stress Relief: Yoga and Meditation
AC4-V	Foreign Language (one of Japanese/Spanish/French/German) Course contents for <b>Japanese( Module 2)</b> are provided. For other languages institute may design suitably.

Note: It is permitted to opt one of the audit courses listed at SPPU website too, if not opted earlier. [1]  
<http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202017/Forms/AllItems.aspx>  
[http://www.unipune.ac.in/university\\_files/syllabi.htm](http://www.unipune.ac.in/university_files/syllabi.htm)

  
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**Savitribai Phule Pune University**  
**Second Year of Engineering (2019 Course)**  
**210251: Audit Course 3**



In addition to credits, it is recommended that there should be audit course, in preferably in each semester starting from second year in order to supplement students' knowledge and skills. Student will be awarded the bachelor's degree if he/she earns specified total credit [1] and clears all the audit courses specified in the curriculum. The student will be awarded grade as AP on successful completion of audit course. The student may opt for one of the audit courses per semester, starting in second year first semester. Though not mandatory, such a selection of the audit courses helps the learner to explore the subject of interest in greater detail resulting in achieving the very objective of audit course's inclusion. List of options offered is provided. Each student has to choose one audit course from the list per semester. Evaluation of audit course will be done at institute level itself. Method of conduction and method of assessment for audit courses are suggested.

**Criteria:**

The student registered for audit course shall be awarded the grade AP (Audit Course Pass) and shall be included such AP grade in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the Savitribai Phule Pune University and satisfactory performance and secured a passing grade in that audit course. No grade points are associated with this 'AP' grade and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA. Evaluation of audit course will be done at institute level itself [1]

**Guidelines for Conduction and Assessment (Any one or more of following but not limited to):**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Lectures/ Guest Lectures</li> <li>• Visits (Social/Field) and reports</li> <li>• Demonstrations</li> </ul> | <ul style="list-style-type: none"> <li>• Surveys</li> <li>• Mini-Project</li> <li>• Hands on experience on focused topic</li> </ul> |
|---|---|

**Course Guidelines for Assessment (Any one or more of following but not limited to):**

- Written Test
- Demonstrations/ Practical Test
- Presentations, IPR/Publication and Report

**Audit Course 3 Options**

Audit Course Code	Audit Course Title
AC3-I	Green Construction and Design
AC3-II	Social Awareness and Governance Program
AC3-III	Environmental Studies
AC3-IV	Smart Cities
AC3-V	Foreign Language (one of Japanese/Spanish/French/German). Course contents for Japanese( Module 1) are provided. For other languages institute may design suitably.

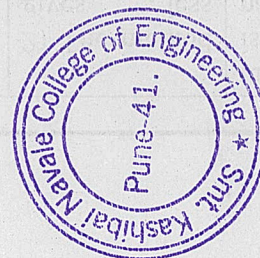
Note: It is permitted to opt one of the audit courses listed at SPPU website too, if not opted earlier.

<http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202017/Forms/AllItems.aspx>

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

  
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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 &amp; Project Management</u>	03	--	--	30	70	--	--	--	100	03	--
310244	<u>Information Systems &amp; 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

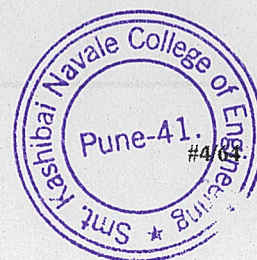
AC3-III: Emotional Intelligence

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			Examination Scheme and Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TUT	PR
310250	<u>Design &amp; Analysis of Algorithms</u>	04	--	--	30	70	--	--	--	100	04	
310251	<u>Systems Programming &amp; Operating System</u> (SP & OS)	04	--	--	30	70	--	--	--	100	04	--
310252	<u>Embedded Systems &amp; Internet of Things</u> (ES & IoT)	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 &amp; Technical Communication</u>	--	01	--	--	--	50	--	--	50	01	--
310256	<u>Web Technology Lab</u>	--	--	02	--	--	25	50	--	75	--	01
310257	<u>SP &amp; OS Lab</u>	--	--	04	--	--	25	50	--	75	--	02
310258	<u>ES &amp; 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

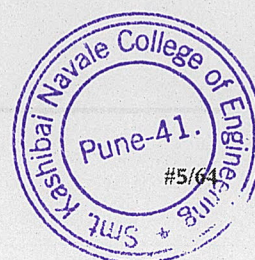
AC4-III: Sustainable Energy Systems

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**  
**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
<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	Audit Course 5										<b>Grade</b>
<b>Elective I</b>				<b>Elective II</b>							
410244 (A) Digital Signal Processing				410245 (A) Distributed Systems							
410244 (B) Software Architecture and Design				410245 (B) Software Testing and Quality Assurance							
410244 (C) Pervasive and Ubiquitous Computing				410245 (C) Operations Research							
410244 (D) Data Mining and Warehousing				410245 (D) Mobile Communication							

**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

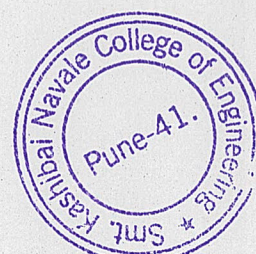
**OR:** Oral

**PR:** Practical

**Sem:** Semester

**\*PRE:** Project/ Mini-Project Presentation

**Head**





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

**Semester II**

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
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
<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

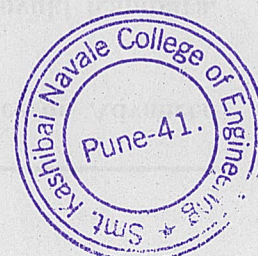
PR: Practical

Sem: Semester

\*PRE: Project/ Mini-Project Presentation

**Head**  
 Department of Computer Engineering  
 SKNCOE, Pune-411004

Syllabus for Fourth Year of Computer Engineering





**Smt. Kashibai Navale College of Engineering, Pune**  
**Department of Information Technology Engineering**

**1.3.1: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum**

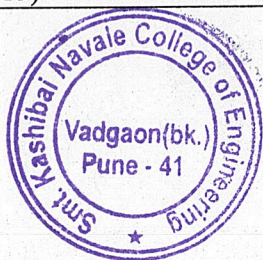
**Index**


Sr. No.	Description	Page No.
1	List of the courses that address crosscutting issues	
2	Description of courses which address the crosscutting issues	
3	Link for the relevant documents	

**1. List of the courses that address crosscutting issues**

**Information Technology**

Sr. No.	Core Course	Course No.	Course Name
1.	SE Information Technology (2019)	214449	Soft Skill Lab
2.	SE Information Technology (2019)	214450A	Ethics & Values in IT
3.	SE Information Technology (2019)	21445B	Project based Learning
4.	SE Information Technology (2019)	214459A	Water Supply & Treatment
5.	SE Information Technology (2019)	214459C	Waste Management & Pollution control
6.	SE Information Technology (2019)	214459D	Intellectual Property Rights
7	TE Information Technology (2019)	314455	Internship
8	TE Information Technology (2019)	314454B ( E-II)	Cyber Security
9	TE Information Technology (2019)	314459B	Leadership & Personality Developments
10	BE Information Technology (2015)	414453	Information & Cyber security
11	BE Information Technology (2015)	414460	Project Phase I
12	BE Information Technology (2015)	414456C	Usability Engineering



  
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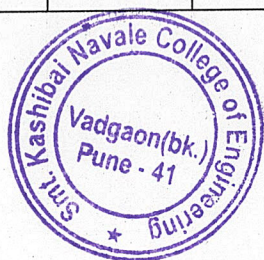
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13	BE Information Technology (2015)	414461A	Emotional Intelligence
14	BE Information Technology (2015)	414461B	Green Computing
15	BE Information Technology (2015)	414464D	Internet & Web programming

2. Description of courses which address the crosscutting issues

Information Technology:

Core Course	Course No.	Course Name	crosscutting issues	Description of course
SE Information Technology	214449	Soft Skill Lab	Professional ethics	Understanding of Ethics & Moral The course highlights the importance of 1. To encourage the all-round development of students by focusing on soft skills. 2. To make the engineering students aware of the importance, the role and the content of soft skills through instruction, knowledge acquisition, demonstration and practice. 3. To develop and nurture the soft skills of the students through individual and group activities. 4.To expose students to right attitudinal and behavioral aspects and to build the same through activities
SE Information Technology	214450A	Ethics & Values in IT	Professional ethics, Sustainability	Ethics in Business World & IT. This course enables the students to understand meaning of following 1. To prepare the students to various forms of the Information Systems and its application in organizations. 2. To expose the students to the managerial issues relating to information systems and help them identify and evaluate various options in Information Systems.
SE Information Technology	21445B	Project based Learning	Human values, Social learning	This course enables students to relate daily issues with learning .while doing mini project in group student will learn finding an issue, then study



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				material available related to that project, finding materials required for its construction, to think in group and find solution and finally construct p
SE Information Technology	214459A	Water Supply & Treatment	Environmental Studies	Water requirement & water sources. This course highlights on knowledge about concepts and strategies related to sustainable development and various components of environment. Also creates awareness and gives information related to biotic and a biotic factors within an ecosystem
SE Information Technology	214459C	Waste Management & Pollution control	Environmental Studies	Water requirement & water sources. This course highlights on knowledge about concepts and strategies related to sustainable development and various components of environment. Also creates awareness and gives information related to biotic and a biotic factors within an ecosystem
SE Information Technology	214459D	Intellectual Property Rights	Professional ethics	Intellectual property rights creates the awareness about new innovative ideas and also refers to the rights which are attached to the creation of the .
TE Information Technology	314455	Internship	Human values/Ethics/ Environmental studies	Understand the social economic & administrative consideration that influence working on environment & professional & social ethics. An internship is a learning experience of its own kind. Communication. Communication occurs in a variety of ways, but future employers are primarily interested in your ability to write and speak professionally. ...
TE Information Technology	314454B ( E-II)	Cyber Security	Human Values, Ethical values, Professional ethics, Sustainability, Adaptability	To understand the digital forensics conceits & technique for conducting forensic exam on digital devices This course enables the students to understand meaning of 1. To offer an understanding of principle concepts, central topics and basic approaches in information and cyber security. 2. To know the basics of cryptography.



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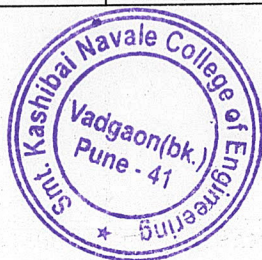
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				<p>3. To acquire knowledge of standard algorithms and protocols employed to provide confidentiality, integrity and authenticity.</p> <p>4. To enhance awareness about Personally Identifiable Information (PII), Information Management, cyber forensics.</p>
TE Information Technology	314459B	Leadership & Personality Developments	Professional ethics, Human Values	<p>To develop personalities of students to empower them to get better insights to self-responsibilities &amp; personal life to build better human being.</p> <p>Generates awareness about</p> <ol style="list-style-type: none"> <li>1. To develop inter personal skills and be an effective goal oriented team player.</li> <li>2. To develop professionals with idealistic, practical and moral values.</li> <li>3. To develop communication and problem solving skills.</li> <li>4. To re-engineer attitude and understand its influence on behavior</li> </ol>
BE Information Technology	414453	Information & Cyber security	Professional ethics, Sustainability, Adaptability	<p>To understand the digital forensics conceits &amp; technique for conducting forensic exam on digital devices</p> <p>This course enables the students to understand meaning of</p> <ol style="list-style-type: none"> <li>1. To offer an understanding of principle concepts, central topics and basic approaches in information and cyber security.</li> <li>2. To know the basics of cryptography.</li> <li>3. To acquire knowledge of standard algorithms and protocols employed to provide confidentiality, integrity and authenticity.</li> <li>4. To enhance awareness about Personally Identifiable Information (PII), Information Management, cyber forensics.</li> </ol>
BE Information Technology	414460	Project Phase I	Human values/Ethics Social learning	<p>Students should able to implement their ideas industrial problems, current applications from their domain.</p> <p>This course enables students to relate daily issues with learning. while doing mini project in group student will learn</p>





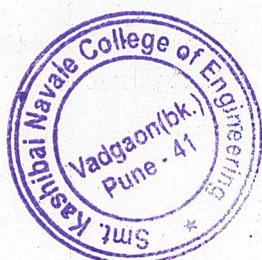
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				finding an issue, then study material available related to that project, finding materials required for its construction, to think in group and find solution and finally construct project.
BE Information Technology	414456C	Usability Engineering	Environmental Studies	Human computer interaction Rapid growth of Information and Communication technologies has given opportunities to various startups, to introduce smart products/applications in our ecosystem. In the era of globalization, competition across startups, specifically products are huge and if any start up or product fails to attract loyal consumer base, it is doomed to collapse. In order to ensure enhanced consumer interaction and their loyalty, aspects of human factors need to be engineered into these products. This is where Usability Engineering comes into existence. Usability focuses on qualitative and quantitative aspects of effectiveness, efficiency and satisfaction with which specified users achieve specified goals in particular environments. This is a detailed basic level course that would focus on user's psycho social and cognitive parameters, frameworks to capture and identify consumer/users individual parameters and ways to design and conceptualize functional products around them.
BE Information Technology	414461A	Emotional Intelligence	Human values Ethics Social learning	Based on self-awareness, self-regulation & motivation, empathy & personal skill. Earn emotional intelligence training for employees accepting and working on one's emotion. Emotional intelligence in leadership Work on self-awareness, self-regulation, motivation. Experienced Trainer. Courses: HR Generalist, Payroll, SHRM, Talent Acquisition. Resources to Increase Resilience, Focus, Emotional Intelligence &

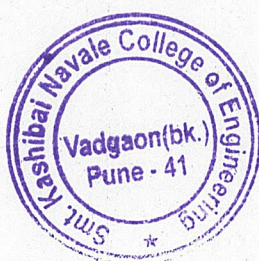


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				Leadership. Learn More About The Search Inside Yourself Program. Communicate Effectively. Develop Self-Awareness. Unleash Creativity. Increase Focus. Manage Your Stress.
BE Information Technology	414461B	Green Computing	Environmental Studies.	Used to minimize negative impact on the environment. Green computing is the environmentally responsible and eco-friendly use of computers and their resources. In broader terms, it is also defined as the study of designing, engineering, manufacturing, using and disposing of computing devices in a way that reduces their environmental impact. It was conceived by the Environmental Protection Agency (EPA) in 1992 to promote energy efficiency in various appliances, such as laptops, washers, dryers, and refrigerators. Organizations use the Green Computing Lifecycle when designing and implementing green computing technologies.
BE Information Technology	414464D	Internet & Web programming	Human values/Enviro nmental studies	It is used to develop web services & mobile web development skills. Web programming refers to the writing, markup and coding involved in Web development, which includes Web content, Web client and server scripting and network security. The most common languages used for Web programming are XML, HTML, JavaScript, Perl 5 and PHP. Typically, it refers to the coding and programming side of web site production as opposed to the web design side. It encompasses everything from a simple page of HTML text to complex, feature-rich applications designed to be accessed from various Internet-connected devices.



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## B.E. (Information Technology) 2015 Course to be implemented from Academic Year 2018-19

## SEMESTER –I

Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Practical	Tutorial	In-Sem	TW	PR	OR	End-Sem		
414453	Information and Cyber Security	3	--	--	30	--	--	--	70	100	3
414454	Machine Learning and Applications	4	--	--	30	--	--	--	70	100	4
414455	Software Design and Modeling	3	--	--	30	--	--	--	70	100	3
414456	Elective-I	3	--	--	30	--	--	--	70	100	3
414457	Elective -II	3	--	--	30	--	--	--	70	100	3
414458	Computer Laboratory-VII	--	4	--	--	50	50	--	--	100	2
414459	Computer Laboratory-VIII	--	4	--	--	50	--	50	--	100	2
414460	Project Phase-I	--	--	2	--	50	--	--	--	50	2
414461	Audit Course-V	--	--	--	--	--	--	--	--	Grade	
Total		16	8	2	150	150	50	50	350	750	22
Total of Part-I		26				750					

**Abbreviations:** TW: Term Work TH: Theory OR: Oral PR: Practical Sem: Semester

Computer Laboratory-VII (Information and Cyber Security+ Machine Learning and Application)

Computer Laboratory-VIII (Software Design and Modeling)

Elective I		Elective II	
414456 A	1. Wireless Communications	414457A	1. Software Defined Networks
414456B	2. Natural Language Processing	414457B	2. Soft Computing
414456C	3. Usability Engineering	414457C	3. Software Testing and Quality Assurance
414456D	4. Multicore and Concurrent Systems	414457D	4. Compiler Construction
414456E	5. Business Analytics and Intelligence	414457E	5. Gamification



Audit Course-V	
414461A	1. Emotional Intelligence
414461B	2. Green Computing
414461C	3. Critical Thinking
414461D	4. Statistical Learning model using R.

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## SEMESTER –II

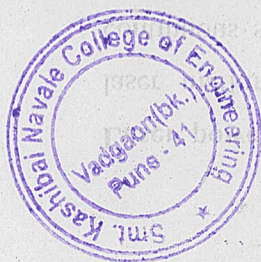
Subject Code	Subject	Teaching Scheme			Examination Scheme					Total Marks	Credits
		Lecture	Practical	Tutorial	In-Sem	TW	PR	OR	End-Sem		
414462	Distributed Computing System	3	--	--	30	--	--	--	70	100	3
414463	Ubiquitous Computing	3	--	--	30	--	--	--	70	100	3
414464	Elective-III	3	2	--	30	25	--	25	70	150	4
414465	Elective-IV	3	--	--	30	--	--	--	70	100	3
414466	Computer Laboratory-IX	--	4	--	--	50	50	--	--	100	2
414467	Computer Laboratory-X	--	2	--	--	25	--	25	--	50	1
414468	Project Work	--	--	6	--	50	--	100	--	150	6
414469	Audit Course-VI	--	--	--	--	--	--	--	--	Grade	
Total		12	8	6	120	150	50	150	280	750	22
Total of Part-II			26					750			

**Abbreviations:** TW: Term Work TH: Theory OR: Oral PR: Practical Sem: Semester

Computer Laboratory-IX (Distributed Computing System)

Computer Laboratory-X (Ubiquitous Computing)

Elective III		Elective IV	
414464A	1. Internet of Things (IoT)	414465A	1. Rural Technologies and Community Development
414464B	2. Information storage and retrieval	414465B	2. Parallel Computing
414464C	3. Multimedia Techniques	414465C	3. Computer Vision
414464D	4. Internet and Web Programming	414464D	4. Social Media Analytics
414464E	5. Computational Optimization	414465E	5. Open Elective



Audit Course-VI	
414469A	1. IoT – Application in Engineering field
414469B	2. Entrepreneurship
414469C	3. Cognitive Computing
414469D	4. AI and Robotics

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Savitribai Phule Pune University														
Second Year of Information Technology Engineering(2019 Course)														
(With effect from Academic Year 2020-21)														
Semester-III														
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	PR	TUT	Total
214441	Discrete Mathematics	03	-	01	30	70	25	-	-	125	03	--	01	04
214442	Logic Design and Computer Organization	03	-	-	30	70	-	-	-	100	03	-	-	03
214443	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
214444	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
214445	Basics of Computer Network	03	-	-	30	70	-	-	-	100	03	-	-	03
214446	Logic Design Computer Organization Lab	-	02	-	-	-	25	25	-	50	-	01	-	01
214447	Data Structures and Algorithms Lab	-	04	-	-	-	25	25	-	50	-	02	-	02
214448	Object Oriented Programming Lab	-	04	-	-	-	25	25	-	50	-	02	-	02
214449	Soft Skill Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
214450	Mandatory Audit Course 3	-	-	-	-	-	-	-	-	-	Non Credit			-
Total		15	12	01	150	350	125	75	--	700	15	06	01	22

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

**Note:** Students of S.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)

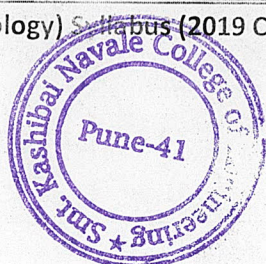
#Mandatory Audit Course 3:

214450A- Ethics and values in IT

214450B - Quantitative Aptitude and Logical Reasoning

214450C- Language Study- Japanese- Module

214450D- Cyber Security and Law

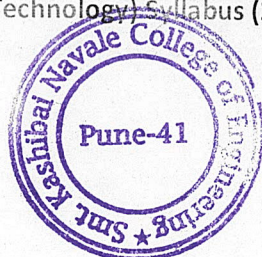


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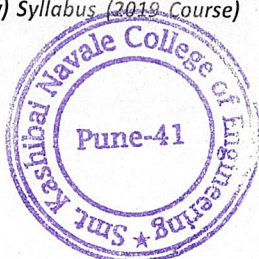
Savitribai Phule Pune University, Pune														
Second Year of Information Technology Engineering (2019 Course)														
(With effect from Academic Year 2020-21)														
Semester-IV														
Course Code	Course Name	Teaching Scheme			Examination Scheme and Marks						Credit			
		(Hours/Week)												
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
<u>207003</u>	Engineering Mathematics- III	03	-	01	30	70	25	-	-	125	03	--	01	04
<u>214451</u>	Processor Architecture	03	-	-	30	70	-	-	-	100	03	-	-	03
<u>214452</u>	Database Management System	03	-	-	30	70	-	-	-	100	03	-	-	03
<u>214453</u>	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
<u>214454</u>	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
<u>214455</u>	Programming Skill Development Lab	-	02	-	-	-	25	25	-	50	-	01	-	01
<u>214456</u>	Database Management System Lab	-	04	-	-	-	25	25		50	-	02	-	02
<u>214457</u>	Computer Graphics Lab	-	02	-	-	-	-	25	-	25	-	01	-	01
<u>214458</u>	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02
<u>214459</u>	Mandatory Audit Course 4	-	-	-	-	-	-	-	-	-	Non Credit			-
Total		15	12	01	150	350	125	75	-	700	15	06	01	22
Abbreviations:														
TH: Theory      TW: Term Work      PR: Practical														
OR: Oral      TUT: Tutorial														
Note: Students of S.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS ( Information Technology)														

#Mandatory Audit Course 4:

214459A - Water Supply and Treatment214459B - Language Study- Japanese- Module II214459C - Waste Management and Pollution Control214459D - Intellectual Property Rights

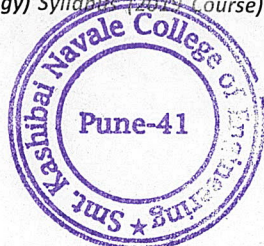


Savitribai Phule Pune University														
Third Year of Information Technology (2019 course)														
(With effect from Academic Year 2021-22)														
Semester-V														
Course Code	Course Name	Teaching Scheme (Hours/ week)			Examination Scheme and Marks						Credit Scheme			
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
<u>314441</u>	Theory of Computation	03	-	-	30	70	-	-	-	100	3	-	-	3
<u>314442</u>	Operating Systems	03	-	-	30	70	-	-	-	100	3	-	-	3
<u>314443</u>	Machine Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
<u>314444</u>	Human Computer Interaction	03	-	-	30	70	-	-	-	100	3	-	-	3
<u>314445</u>	Elective-I	03	-	-	30	70	-	-	-	100	3	-	-	3
<u>314446</u>	Operating Systems Lab	-	04	-	-	-	25	25	-	50	-	2	-	2
<u>314447</u>	Human Computer Interaction- Lab	-	02	-	-	-	-	-	50	50	-	1	-	1
<u>314448</u>	Laboratory Practice-I	-	04	-	-	-	25	25	-	50	-	2	-	2
<u>314449</u>	Seminar	-	01	-	-	-	50	-	-	50	-	1	-	1
<u>314450</u>	Audit Course 5	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Credit											15	06	-	21
Total		15	11	-	150	350	100	50	50	700	15	06	-	21
Abbreviations: TH: Theory, TW: Term Work, PR: Practical, OR: Oral ,TUT: Tutorial														
Elective-I:							Audit Course 5:							
<u>314445A</u> - Design and Analysis of Algorithm							<u>314450A</u> -Banking and Insurance							
<u>314445B</u> - Advanced Database and Management System							<u>314450B</u> -Startup Ecosystems							
<u>314445C</u> - Design Thinking							<u>314450C</u> - Foreign Language–(Japanese Language- III )							
<u>314445D</u> - Internet of Things														
Laboratory Practice-I:														
Assignment from Machine Learning and Elective I														
Note: Students of T.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)														





Savitribai Phule Pune University														
Third Year of Information Technology (2019 Course)														
(With effect from Academic Year 2021-22)														
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
<u>314451</u>	Computer Networks& Security	03	-	-	30	70	-	-	-	100	03			03
<u>314452</u>	Data Science and Big Data Analytics	03	-	-	30	70	-	-	-	100	03			03
<u>314453</u>	Web Application Development	03	-	-	30	70	-	-	-	100	03			03
<u>314454</u>	Elective-II	03	-	-	30	70	-	-	-	100	03			03
<u>314455</u>	Internship	-	04	-	-	-	100	-	-	100		04		04
<u>314456</u>	Computer Networks& Security-Lab	-	04	-	-	-	25	-	50	75		02		02
<u>314457</u>	DS & BDA-Lab	-	02	-	-	-	25	25	-	50		01		01
<u>314458</u>	Laboratory Practice-II	-	04	-	-	-	50	25	-	75		02		02
<u>314459</u>	Audit Course 6	-	-	-	-	-	-	-	-	-	-	-	-	-
Total											12	09	-	21
Total		12	14	-	120	280	200	50	50	700	12	09	-	21
Abbreviations: TH: Theory, TW: Term Work, PR: Practical , OR: Oral, TUT: Tutorial														
Elective-II:					Audit Course 6:									
<u>314454A</u> - Artificial Intelligence					<u>314459A</u> - Green and Unconventional Energy									
<u>314454B</u> - Cyber Security					<u>314459B</u> - Leadership and Personality Development									
<u>314454C</u> -Cloud Computing					<u>314459C</u> - Foreign Language-(Japanese Language- IV)									
<u>314454D</u> - Software Modeling and Design														
Laboratory Practice-II:														
Assignments from Web Application Development and Elective-II.														
Note: Students of T.E. (Information Technology) can opt any one of the audit course from the list of audit courses prescribed by BoS (Information Technology)														





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**Department of Electronics & Telecommunication Engineering**

*1.3.1: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum*

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3	Link for the relevant documents	5

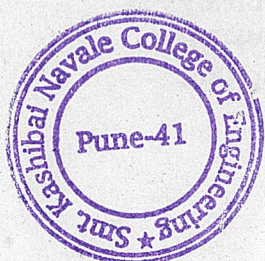
1. List of the courses that address crosscutting issues

Electronics & Telecommunication Engineering

Sr. No.	Core Course	Course No.	Course Name
1	TE Electronics & Telecommunication (2015)	304217B	Cyber and Information Security
2	BE Electronics & Telecommunication (2015)	404196A	Green Energy
3	BE Electronics & Telecommunication (2015)	404196 B	Human Behavior
4	BE Electronics & Telecommunication (2015)	404196 C	Team Building, Leadership and Fitness
5	BE Electronics & Telecommunication (2015)	404196 D	Environmental Issues and Disaster Management
6	SE Electronics & Telecommunication (2019)	204200	Project Based Learning
7	SE Electronics & Telecommunication (2019)	204190	Technical English For Engineers
8	SE Electronics & Telecommunication (2019)	204190	Ecology and Environment

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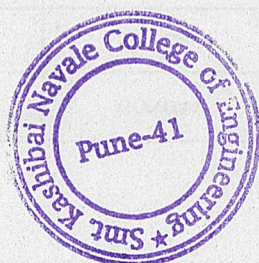
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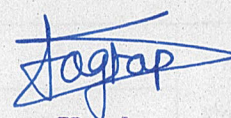




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9	SE Electronics & Telecommunication (2019)	204190	Ecology and Society
10	SE Electronics & Telecommunication (2019)	204190	German I
11	SE Electronics & Telecommunication (2019)	204190	Science, Technology and Society
12	SE Electronics & Telecommunication (2019)	204190	Introduction to Japanese Language and Culture
13	SE Electronics & Telecommunication (2019)	204201	Enhancing Soft Skills and Personality
14	SE Electronics & Telecommunication (2019)	204201	Language & Mind
15	SE Electronics & Telecommunication (2019)	204201	Emotional Intelligence
16	SE Electronics & Telecommunication (2019)	204201	German II
17	SE Electronics & Telecommunication (2019)	204201	Human Behaviour
18	SE Electronics & Telecommunication (2019)	204201	Speaking Effectively
19	TE Electronics & Telecommunication (2015)	304198	Mini Project
20	BE Electronics & Telecommunication (2015)	404188	Project Phase-I
21	BE Electronics & Telecommunication (2015)	404195	Project Phase-II





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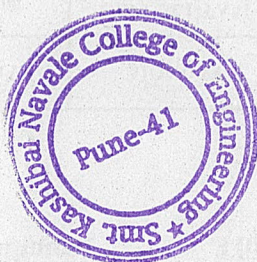
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2. Description of courses which address the crosscutting issues

Electronics & Telecommunication Engineering

Core courses	Course Number	Course Name	Cross-cutting issue	Description of course
TE Electronics & Telecommunication (2015)	304217B	Cyber and Information Security	Professional ethics	To create the awareness among students to follow the professional ethics, avoid the plagiarism.
BE Electronics & Telecommunication (2015)	404196A	Green Energy	Professional ethics	Significance of Waste heat recovery and Cogeneration. Energy Audit of the residence / society / college where students are studying. - Carry out electrical tariff calculation and accurately predict the electricity bill required for the installation. - Suggest various methods to reduce energy consumption of the equipment / office / premises.
BE Electronics & Telecommunication (2015)	404196 B	Human Behavior	Professional ethics, environment and sustainability	Intellectual property rights creates the awareness about new innovative ideas and also refers to the rights which are attached to the creation of the mind and which take the form of property



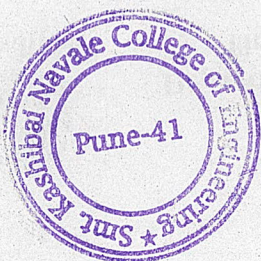
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BE Electronics & Telecommunication (2015)	404196 C	Team Building, Leadership and Fitness	Professional ethics, Human values.	This course teaches the students to apply the Industrial Engineering concept in the industrial environment, Manage and implement different concepts involved in methods study and understanding of work content in different situations, Undertake project work based on the course content, Describe different aspects of work system design and facilities design pertinent to manufacturing industries, Identify various cost accounting and financial management practices widely applied in industries, Develop capability in integrating knowledge of design along with other aspects of value addition in the conceptualization and manufacturing stage of various products
BE Electronics & Telecommunication (2015)	404196 D	Environmental Issues and Disaster Management	Professional ethics, Human values.	This course teaches the students to emphasize project based learning activities that are long-term, interdisciplinary and student-centric. To inculcate independent and group learning by solving real world problems with the help of available resources. To be able to develop applications based on the fundamentals of mechanical engineering by possibly applying previously acquired knowledge. To get practical experience in all steps in the life cycle of the development of mechanical systems: specification, design, implementation, and testing.
BE Electronics & Telecommunication (2015)	404188	Project Phase-I	Professional ethics	Introduce the skills required in an industry such as design, development, assembly & disassembly. Develop the skills required for fault diagnose of engine and transmission of different automotive and various home appliances. Establish the skills required for maintenance of any machine tool. Create awareness about the industrial environment.



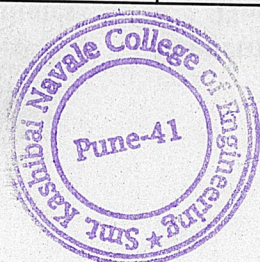
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SE Electronics & Telecommunication (2019)	204200	Project Based Learning	Professional ethics	Introduce the skills required in an industry such as design, development, assembly & disassembly. Develop the skills required for fault diagnose of engine and transmission of different automotive and various home appliances. Establish the skills required for maintenance of any machine tool. Create awareness about the industrial environment.
SE Electronics & Telecommunication (2019)	204190	Technical English For Engineers	Professional ethics	The course covers all the areas of grammar necessary for the undergraduate students of engineering sciences. This includes topics such as reading/writing/listening comprehension, note taking, summarizing, report writing, along with elements of grammar and vocabulary. The course is designed for self-study, where participants will be required to solve regular quizzes and assignments and can also be used as an add-on to classroom teaching.
SE Electronics & Telecommunication (2019)	204190	Ecology and Environment	Environmental Studies	Ecology is the study of interaction among living organisms (plants, animals, microbes) as well as interaction with its abiotic environment (temperature, water, air, soil, light, etc.). Students will understand all the conditions that influence and affect the development and sustainability of life of all organisms present on the earth. It is an immediate surrounding of living organisms in which it lives and operates.
SE Electronics & Telecommunication (2019)	204190	Ecology and Society	Environmental Studies	The course focuses on the ecology of human societies –human-environment relationships, with reference to cultural ecology and issues surrounding sustainable development. The ecology of human societies is about connections between ecological and human social, cultural, and organizational processes. Based on selected works of ecological anthropologists, this course focuses on the dynamic relationships between



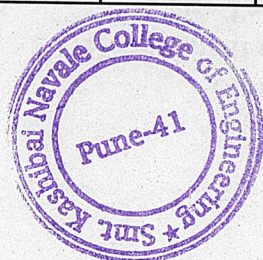
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				human cultures and their ecological environments. It uses basic concepts of anthropology, including the concept of culture as a dynamic system of learned behaviours and beliefs, to better understand how human beings adapt to and change their physical and social surroundings.
SE Electronics & Telecommunication (2019)	204190	German I	Human values, Professional ethics	German I is meant to be an introduction to the German language and a basic orientation towards Germany (and to some extent Austria and Switzerland). Learning to understand and articulate oneself in day to day real life situations, and to begin to make sense of Germany as a cultural space are the overall objectives of the course. Serious learners should be able to grasp the basic sentence structure and build a good foundational vocabulary through this course.
SE Electronics & Telecommunication (2019)	204190	Science, Technology and Society	Human Values, Environment and Ecology, Ethical values, Sustainability	Science, Technology & Society enhances student's understanding of the way in which advances in science and technology influence society and vice versa.
SE Electronics & Telecommunication (2019)	204190	Introduction to Japanese Language and Culture	Human values, Professional ethics	Japanese Language has been taught as part of the Foreign Language Programme at IIT Kanpur since July 1995. With increasing technical and economic ties between India and Japan, more Japanese companies are doing business in India and vice versa. This gives rise to the urgent need for more Indians to learn at least the rudiments of Japanese for their professional advancement. This course has been designed with the above background and keeping in mind the requirements of Level's 5 of the 'Japanese Language Proficiency Test', held by Japan Foundation. It focuses on conversational skills and basic training in sentence construction, simple



  
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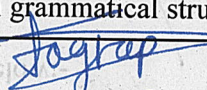
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				situational conversation, grammatical knowledge and elements of Kanji (Chinese pictograms), and the kana (Katakana and Hiragana) scripts.
SE Electronics & Telecommunication (2019)	204201	Enhancing Soft Skills and Personality	Professional ethics	The course aims to cause an enhanced awareness about the significance of soft skills in professional and inter-personal communications and facilitate an all-round development of personality. Hard or technical skills help securing a basic position in one's life and career. But only soft skills can ensure a person retain it, climb further, reach a pinnacle, achieve excellence, and derive fulfilment and supreme joy. Soft skills comprise pleasant and appealing personality traits as self-confidence, positive attitude, emotional intelligence, social grace, flexibility, friendliness, and effective communication skills.
SE Electronics & Telecommunication (2019)	204201	Language & Mind	Professional ethics	In addition to credits courses, it is mandatory that there should be an audit course (non-credit course) from the second year of Engineering. The student may opt for two of the audit courses (One in each semester). Such audit courses can help the student to get awareness of different issues which make an impact on human lives and enhance their skill sets to improve their employability.
SE Electronics & Telecommunication (2019)	204201	Emotional Intelligence	Human values, Professional ethics	Emotional intelligence (otherwise known as emotional quotient or EQ) describes the ability to understand, use, and manage your own emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges and defuse conflict.
SE Electronics & Telecommunication (2019)	204201	German II	Human values, Professional ethics	German II builds upon German I to help the student acquire the A level of competence(A1+A2) as per the European Common Language Framework. It is meant to broaden and deepen the learner's understanding of German grammatical structures, further

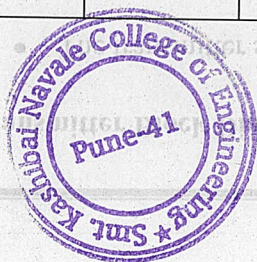


  
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				enrich her vocabulary to cover all aspects of daily living, and to develop a basic understanding of the German cultural space. Serious learners should be able to get a comprehensive understanding of basic German grammar, and build a good enough vocabulary to be able to articulate themselves in any given daily life situation, and about basic themes of personal interest.
SE Electronics & Telecommunication (2019)	204201	Human Behaviour	Human Values and Sustainability	Human behaviour describes the way humans act and interact. It is based on and influenced by several factors, such as genetic make-up, culture and individual values and attitudes.
SE Electronics & Telecommunication (2019)	204201	Speaking Effectively	Social Values, Professional Ethics, Sustainability	This course aims to introduce students to the dynamics of effective spoken communication by establishing speaking as an autonomous medium with a distinctive vocabulary, syntax, structure, style and register. It will enable learners to participate in one-to-one interactions, in small groups and before a group. Learners are expected to master the fundamentals of speaking such as vocabulary, body language, pronunciation, and basic conversation skills before they move on to more advanced activities such as appearing in interviews, making formal presentations and participating in meetings.
TE Electronics & Telecommunication (2015)	304198	Mini Project	Professional ethics	Industry/on project experience provides much more professional experience as value addition to classroom teaching. To encourage and provide opportunities for students to get professional/personal experience through internships.
BE Electronics & Telecommunication (2015)	404188	Project Phase-I	Professional ethics	Introduce the skills required in an industry such as design, development, assembly & disassembly. Develop the skills required for fault diagnose of engine and transmission of different automotive and various home appliances. Establish the skills required for maintenance of any machine tool.



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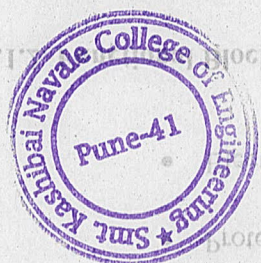


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				Create awareness about the industrial environment.
BE Electronics & Telecommunication (2015)	404195	Project Phase-II	Professional ethics	Introduce the skills required in an industry such as design, development, assembly & disassembly. Develop the skills required for fault diagnose of engine and transmission of different automotive and various home appliances. Establish the skills required for maintenance of any machine tool. Create awareness about the industrial environment.

3. Link for the relevant documents

Sr. No.	File Description	Link to Open
1	List and description of courses which address the Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.	Link to the Document



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SavitribaiPhule Pune University, Pune														
S.E. (Electronics / E&TC Engineering) 2019 Course														
(With effect from Academic Year 2020-21)														
Semester-III														
Course Code	CourseName	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	nd-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
207005	Engineering Mathematics III	04	-	01	30	70	25	-	-	125	04	-	01	05
204181	Electronic Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204182	Digital Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204183	Electrical Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204184	Data structures	03	-	-	30	70	-	-	-	100	03	-	-	03
204185	Electronic Circuit Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204186	Digital circuits Lab		02					50		50		01		01
204187	Electrical Circuit Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
204188	Data Structures Lab	-	02	-	-	-	-	-	25	25	-	01	-	01
204189	Electronic Skill Development	-	02	-	-	-	25	-	-	25	-	01	-	01
204190	Mandatory Audit Course 3	-	-	-					-	-	-	-	-	-
Total		16	10	01	150	350	75	100	25	700	16	05	01	22

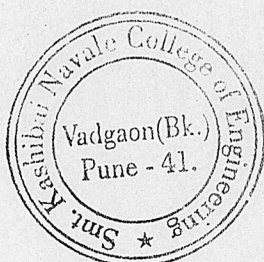
## Mandatory Audit Course 3

1. Technical English For Engineers
2. Ecology and Environment
3. Ecology and Society
4. German I
5. Science, Technology and Society
6. Introduction to Japanese Language and Culture

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S.E. (Electronics / E&TC Engineering) 2019 Course  
(With effect from Academic Year 2020-21)

Semester-IV

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	PR	TUT	Total
204191	Signals & Systems	03	-	01	30	70	25	-	-	125	03	-	01	04
204192	Control Systems	03	-		30	70		-	-	100	03	-	-	03
204193	Principles of Communication Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
204194	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
204195	Signals & Control System Lab		02				50			50		01		01
204196	Principle of Communication SystemsLab	-	02	-	-	-	-	50	-	50	-	01	-	01
204197	Object Oriented Programming Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
204198	Data Analytics Lab		02				-		25	25		01		01
204199	Employability Skill Development	02	02	-	-	-	50	-	-	50	02	01	-	03
204200	Project Based Learning 1	-	04				50		-	50		02		02
204201	Mandatory Audit Course 4	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		14	14	01	120	280	175	50	75	700	14	07	01	22

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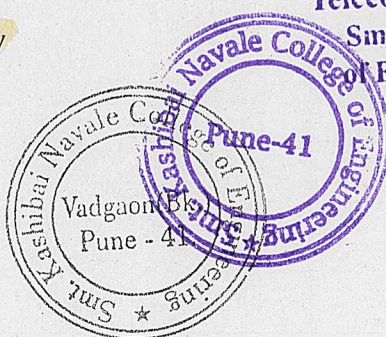
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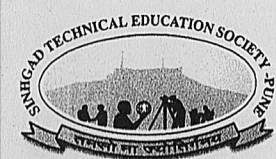
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Mandatory Audit Course 4

- Enhancing Soft Skills and Personality
- Language & Mind
- Emotional Intelligence
- German II
- Human Behaviour
- Speaking Effectively







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 (With effect from Academic Year 2018-19)**

**SEMESTER I**

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credits	
		Theory	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	--	TW 01 + OR 01
404187	Lab Practice -II (VLSI + Elective I)	--	--	4	--	--	50	50		100	--	TW01 + PR 01
404188	Project Stage I	-	2	--	--	--	-	--	50	50	--	2
	Audit Course 5	--	--	--	--	--	--	--	--	--	----	
<b>Total</b>		<b>16</b>	<b>2</b>	<b>8</b>	<b>150</b>	<b>350</b>	<b>100</b>	<b>50</b>	<b>100</b>	<b>750</b>	<b>16</b>	<b>6</b>

Total Credits

22

**Elective I**

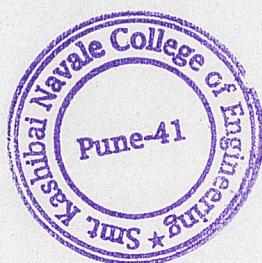
- 1 Digital Image and Video Processing
2. Industrial Drives and Control
3. Embedded Systems & RTOS
4. Internet of Things


**Elective II**

1. Wavelets
2. Electronics Product Design
3. Optimization Techniques
4. Artificial Intelligence
5. Electronics in agriculture

**Audit Course 5**

1. Green Energy
2. Human Behavior



  
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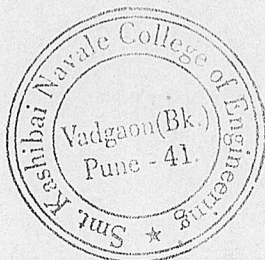
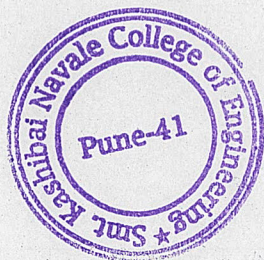
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**Course Structure for B. E. (Electronics/Electronics & Telecommunication Engineering) 2015 Course**  
**(With effect from Academic Year 2018-19)**  
**SEMESTER II**

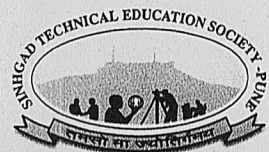
Course Code	Course	Teaching Scheme			Semester Examination Scheme of						Credit	
		Hours / Week			Marks						TH/TW	PR+OR
		Theory	Tut	Pract	In Sem	End-Sem	TW	PR	OR	Total		
404189	Mobile Communication	3	--	--	30	70	--	--	--	100	3	--
404190	Broadband Communication Systems	4	--	--	30	70	--	--	--	100	4	--
404191	Elective III	3	--	--	30	70	--	--	--	100	3	--
404192	Elective IV	3	--	--	30	70	--	--	--	100	3	--
404193	Lab Practice –III (MC+BCS)	--	--	4	--	--	50	50	--	100	--	TW 01 + PR 01
404194	Lab Practice –IV ( Elective III)	--	--	2	--	--	--	--	50	50	--	1
404195	Project Stage II	--	6	-	--	--		150	50	200	--	TW 04 + OR 02
	Audit Course 6	--	--	--	--	--	--	--	--	--		
Total		13	6	6	120	280	200	50	100	750	13	9
Total Credits											22	
<u>Elective III</u>		<u>Elective-IV</u>						<u>Audit Course 6</u>				
1. Machine Learning 2. PLC s andAutomation 3. Audio and SpeechProcessing 4. Software DefinedRadio 5. Audio VideoEngineering		1. Robotics 2. BiomedicalElectronics 3. Wireless SensorNetworks 4. Renewable EnergySystems 5. OpenElective*						1. Team Building, Leadership and Fitness 2. Environmental issues and DisasterManagement				



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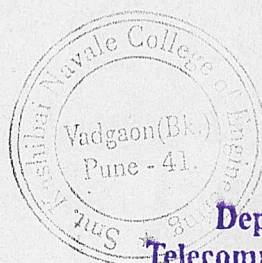


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FOUNDER - PRESIDENTDR. (MRS.) SUNANDA M. NVALE  
B. A., M. P. M., Ph.D.  
FOUNDER - SECRETARYDR. A. V. DESHPANDE  
B. E., M. E. (Computer Engg.), Ph. D.  
PRINCIPAL**Course Structure for T.E. (Electronics & Telecommunication Engineering) 2015 Course**  
**(With effect from Academic Year 2017-18)**  
**Semester II**

Course Code	Course	Teaching Scheme Hours /Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practical's	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304186	Power Electronics	3	--	--	30	70	--	--	--	100	3	--
304187	Information Theory, Coding and Communication Networks	4	--	--	30	70	--	--	--	100	4	--
304188	Business Management	3	--	--	30	70	--	--	--	100	3	--
306189	Advanced Processors	3	--	--	30	70	--	--	--	100	3	--
304190	System Programming and Operating Systems	3	--	--	30	70	--	--	--	100	3	--
304194	Power and ITCT Lab	--	--	4	--	--	50	50	--	100	--	2
304195	Advanced Processors and System Programming Lab	--	--	4	--	--	50	50	--	100	--	2
304196	Employability Skills and Mini Project	2	--	2	--	--	--	--	50	50	2	1
	Audit Course 4	--	--	--	--	--	--	--	--	--		
<b>Total</b>		<b>18</b>	<b>---</b>	<b>10</b>	<b>150</b>	<b>350</b>	<b>100</b>	<b>100</b>	<b>50</b>	<b>750</b>	<b>18</b>	<b>5</b>
<b>Total Credits</b>											<b>23</b>	

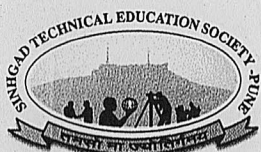
**Audit Course 4**

1. Japanese Language Audit Course
2. Embedded System Design using MSP430



*[Signature]*  
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**Head**  
**Dept. of Electronics & Telecommunication Engineering**  
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Approved by AICTE Vide F. No. 740-89-004 (NDEGAPR/ET/2000) &amp;

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**DR. (MRS.) SUNANDA M. NAVELE**  
B. A., M. P. M., Ph.D.  
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**DR. A. V. DESHPANDE**  
B. E., M. E. (Computer Engg.), Ph. D.  
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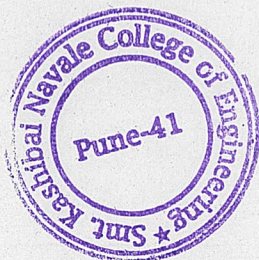
**Course Structure for T.E. (Electronics & Telecommunication Engineering) 2015 Course**  
(With effect from Academic Year 2017-18)

**SEMESTER- I**

Course Code	Course	Teaching Scheme			Semester Examination Scheme of						Credits	
		Hours / Week			Marks						Th+ Tut	PR/O R/ TW
		Theory	Tuto rials	Practi cals	In- Sem	End- Sem	TW	PR	OR	Total		
304181	Digital Communication	3	--	--	30	70	--	-	--	100	3	--
304182	Digital Signal Processing	3	--	--	30	70	--	--	--	100	3	--
304183	Electromagnetics	3	1	--	30	70	--	--	--	100	4	--
304184	Microcontrollers	3	--	--	30	70	--	--	--	100	3	--
304185	Mechatronics	3	--	--	30	70	--	--	--	100	3	--
304191	Signal Processing and Communications Lab (DC/DSP)	--	--	4	--	--	50	50		100	--	2
304192	Microcontrollers and Mechatronics Lab	--	--	4	--	--	50	50		100	--	2
304193	Electronics System Design	2	--	2	--	--	--	--	50	50	2	1
	<b>Audit Course 3</b>	--	--	--	--	--	--	--	--	--	-	
<b>Total</b>		<b>17</b>	<b>01</b>	<b>10</b>	<b>150</b>	<b>350</b>	<b>100</b>	<b>100</b>	<b>50</b>	<b>750</b>	<b>18</b>	<b>5</b>
Total Credits											<b>23</b>	

**Audit Course 3**

1. Japanese Language Audit Course
2. Cyber and Information Security



*Jaytap*  
**Head**

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*Sunde*  
**PRINCIPAL**

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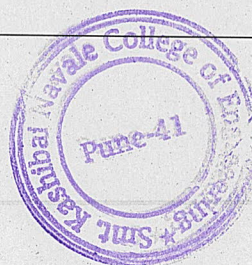
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**Department of Mechanical Engineering**

1. List of the courses that address crosscutting issues

**Mechanical Engineering**

Sr. No.	Core courses	Course No	Course Name
1	SE Mechanical Engineering (2019)	202046	Technical English For Engineers
2	SE Mechanical Engineering (2019)	202046	Entrepreneurship Development
3	SE Mechanical Engineering (2019)	202046	Developing soft skills and personality
4	SE Mechanical Engineering (2019)	202046	Foreign Language (preferably German/ Japanese)
5	SE Mechanical Engineering (2019)	202046	Science, Technology and Society
6	SE Mechanical Engineering (2019)	202052	Project based Learning II
7	SE Mechanical Engineering (2019)	202053	Language & Mind Emotional Intelligence
8	SE Mechanical Engineering (2019)	202053	Human Behaviour
9	SE Mechanical Engineering (2019)	202053	Speaking Effectively
10	TE Mechanical Engineering (2015)	302053	Seminar
11	TE Mechanical Engineering (2015)	302049	Refrigeration and Air Conditionings
12	TE Mechanical Engineering (2015)	302054	Fire & Safety Technology
13	TE Mechanical Engineering (2015)	302054	Entrepreneurship Development

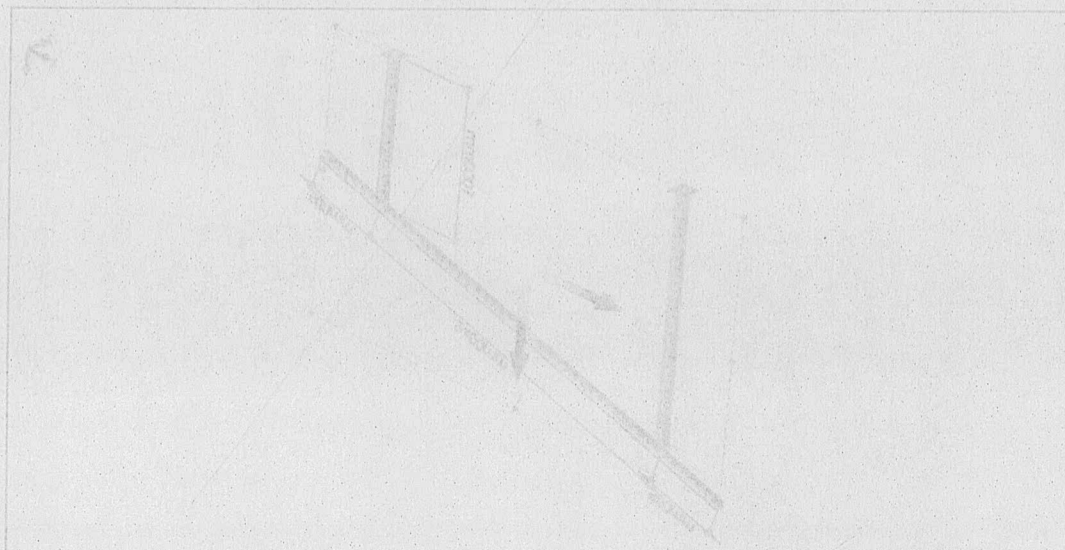
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**Pune - 411 041.**





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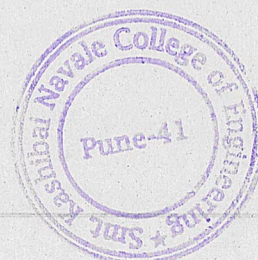
14	TE Mechanical Engineering (2015)	302054	Intellectual Property Right
15	TE Mechanical Engineering (2015)	302054	Lean Management
16	TE Mechanical Engineering (2015)	302054	Smart Manufacturing
17	BE Mechanical Engineering (2015)	402045C	Energy Audit and Management (Elective II)
18	BE Mechanical Engineering (2015)	402046	Project Phase-I
19	BE Mechanical Engineering (2015)	402049B	Industrial Engineering
20	BE Mechanical Engineering (2015)	402051	Project Phase-II



Subscribing Signature:

*TSS*

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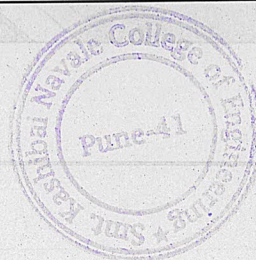
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**Department of Mechanical Engineering**

2. Description of courses which address the crosscutting issues

Mechanical Engineering

Core courses	Course Number	Course Name	Cross- cutting issue	Description of course
SE Mechanical Engineering (2019)	202046	Technical English For Engineers	Professional ethics	The course covers all the areas of grammar necessary for the undergraduate students of engineering sciences. This includes topics such as reading/writing/listening comprehension, note taking, summarizing, report writing, along with elements of grammar and vocabulary. The course is designed for self-study, where participants will be required to solve regular quizzes and assignments and can also be used as an add-on to classroom teaching.
SE Mechanical Engineering (2019)	202046	Entrepreneurship Development	Human Values, Ethics, Environment and Sustainability	Core objective of this course is to expose technical students to the industrial environment, which cannot be simulated/experienced in the classroom and hence creating competent professionals in the industry and to understand the social, economic and administrative considerations that influence the working environment of industrial organizations.
SE Mechanical Engineering (2019)	202046	Developing soft skills and personality	Professional ethics	The course aims to cause an enhanced awareness about the significance of soft skills in professional and inter-personal communications and facilitate an all-round development of personality.. But only soft skills can ensure a person retain it, climb further, reach a pinnacle, achieve excellence, and derive fulfilment and supreme joy. Soft skills comprise pleasant and appealing personality traits as self-confidence, positive attitude, emotional intelligence, social grace, flexibility, friendliness, and effective communication skills.

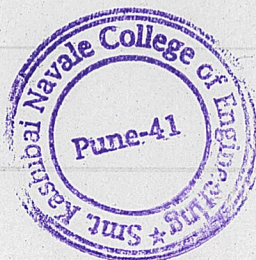
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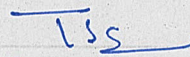




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SE Mechanical Engineering  (2019)	202046	Foreign Language (preferably German/ Japanese)	Human values, Professional ethics	Japanese Language has been taught as part of the Foreign Language Programme at IIT Kanpur since July 1995. With increasing technical and economic ties between India and Japan, more Japanese companies are doing business in India and vice versa. This gives rise to the urgent need for more Indians to learn at least the rudiments of Japanese for their professional advancement. This course has been designed with the above background and keeping in mind the requirements of Level's 5 of the 'Japanese Language Proficiency Test', held by Japan Foundation. It focuses on conversational skills and basic training in sentence construction, simple situational conversation, grammatical knowledge and elements of Kanji (Chinese pictograms), and the kana (Katakana and Hiragana) scripts
SE Mechanical Engineering  (2019)	202046	Science, Technology and Society	Human Values, Environment and Ecology, Ethical values, Sustainability	Science, Technology & Society enhances student's understanding of the way in which advances in science and technology influence society and vice versa.
SE Mechanical Engineering  (2019)	202052	Project based Learning II	Professional ethics, Human values.	This course teaches the students to emphasize project based learning activities that are long-term, interdisciplinary and student-centric. To inculcate independent and group learning by solving real world problems with the help of available resources. To be able to develop applications based on the fundamentals of mechanical engineering by possibly applying previously acquired knowledge. To get practical experience in all steps in the life cycle of the development of mechanical systems: specification, design, implementation, and testing.

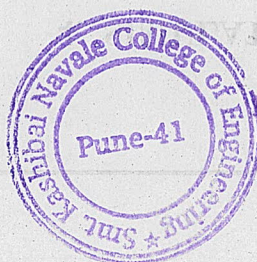


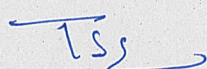
  
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SE Mechanical Engineering  (2019)	202053	Language & Mind Emotional Intelligence	Professional ethics	In addition to credits courses, it is mandatory that there should be an audit course (non-credit course) from the second year of Engineering. The student may opt for two of the audit courses (One in each semester). Such audit courses can help the student to get awareness of different issues which make an impact on human lives and enhance their skill sets to improve their employability
SE Mechanical Engineering  (2019)	202053	Human Behaviour	Human Values and Sustainability	Human behaviour describes the way humans act and interact. It is based on and influenced by several factors, such as genetic make-up, culture and individual values and attitudes.
SE Mechanical Engineering  (2019)	202053	Speaking Effectively	Social Values, Professional Ethics, Sustainability	This course aims to introduce students to the dynamics of effective spoken communication by establishing speaking as an autonomous medium with a distinctive vocabulary, syntax, structure, style and register. It will enable learners to participate in one-to-one interactions, in small groups and before a group. Learners are expected to master the fundamentals of speaking such as vocabulary, body language, pronunciation, and basic conversation skills before they move on to more advanced activities such as appearing in interviews, making formal presentations and participating in meetings.



  
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TE Mechanical Engineering  (2015)	302053	Seminar	Professional ethics	To create the awareness among students to follow the professional ethics, avoid the plagiarism.
TE Mechanical Engineering  (2015)	302049	Refrigeration and Air Conditionings	Environmental	Learning the fundamental principles and different methods of refrigeration and air conditioning. Comparative study of different refrigerants with respect to properties, applications and environmental issues.
TE Mechanical Engineering  (2015)	302054	Fire & Safety Technology	Professional ethics	To generate, develop and sustain a voluntary movement on Fire & Safety Engineering at the National Level aimed at educating and influencing society to adopt appropriate policies, practices and procedures that prevent and mitigate human suffering and economic loss arising from all types of accidents.
TE Mechanical Engineering  (2015)	302054	Entrepreneurship Development	Professional ethics, Human values.	This course will help in developing the awareness and interest in entrepreneurship and create employment for others. Students get familiar with the characteristics and motivation of successful entrepreneurs. Students learn how to identify and refine market opportunities, how to secure financing, how to develop and evaluate business plans and manage strategic partnerships.

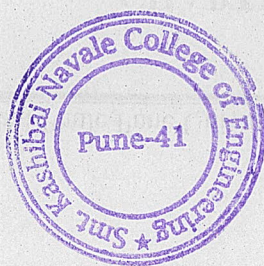


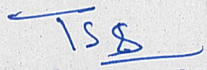
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TE Mechanical Engineering  (2015)	302054	Intellectual Property Right	Professional ethics.	Intellectual property rights creates the awareness about new innovative ideas and also refers to the rights which are attached to the creation of the mind and which take the form of property
TE Mechanical Engineering  (2015)	302054	Lean Manageme nt	Professional ethics	To learn Lean Thinking and its applications /To get knowledge of Tools & Techniques used in Lean Management/To understand Business Impact of Lean Management
TE Mechanical Engineering  (2015)	302054	Smart Manufactur ing	Professional ethics, Human values.	The course will make the students aware of developments in Technology those are going to alter the Traditional Manufacturing scenario. The following topics may be broadly covered in the classroom. The practical will be in the form of Group Discussion based on Case Study.
BE Mechanical Engineering  (2015)	402045C	Energy Audit and Manageme nt (Elective II)	Professional ethics, environment and sustainability	Significance of Waste heat recovery and Cogeneration. Energy Audit of the residence / society / college where students are studying. - Carry out electrical tariff calculation and accurately predict the electricity bill required for the installation. - Suggest various methods to reduce energy consumption of the equipment / office / premises
BE Mechanical Engineering  (2015)	402046	Project Phase-I	Professional ethics.	This course teaches the students to have ideology of the industrial project. Hands on working with tools, tackles and machines. To carry out literature survey To do brain storming for mechanical engineering system



  
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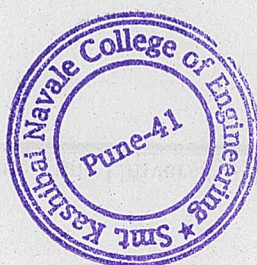


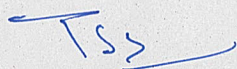
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BE Mechanical Engineering  (2015)	402049B	Industrial Engineerin g	Professional ethics, Human values.	This course teaches the students to apply the Industrial Engineering concept in the industrial environment, Manage and implement different concepts involved in methods study and understanding of work content in different situations, Undertake project work based on the course content, Describe different aspects of work system design and facilities design pertinent to manufacturing industries, Identify various cost accounting and financial management practices widely applied in industries, Develop capability in integrating knowledge of design along with other aspects of value addition in the conceptualization and manufacturing stage of various products
BE Mechanical Engineering  (2015)	402051	Project Phase-II	Professional ethics, Human values.	This course teaches the students to have ideology of the industrial project. Hands on working with tools, tackles and machines. To carry out literature survey To do brain storming for mechanical engineering system

3. Link for the relevant documents

Sr. No.	File Description	Link to Open
1	List and description of courses which address the Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.	



  
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# 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**		





**Savitribai Phule Pune University**  
**Board of Studies - Automobile and Mechanical Engineering**  
**Undergraduate Program - Automobile Engineering & Mechanical Engineering (2019 pattern)**

Course Code	Course Name	Teaching Scheme (Hours/ Week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
		Semester-III												
202041	Solid Mechanics	4	2	-	30	70	-	50	-	150	4	1	-	5
202042	Solid Modeling and Drafting	3	2	-	30	70	-	50	-	150	3	1	-	4
202043	Engineering Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202044	Engineering Materials and Metallurgy	3	2	-	30	70	25	-	-	125	3	1	-	4
203156	Electrical and Electronics Engineering	3	2	-	30	70	25	-	-	125	3	1	-	4
202045	Geometric Dimensioning and Tolerancing Lab	-	2	-	-	-	25	-	-	25	-	1	-	1
202046	Audit Course - III	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	16	12	-	150	350	75	100	25	700	16	6	-	22

<b>Semester-IV</b>														
207002	Engineering Mathematics - III	3	-	1	30	70	25	-	-	125	3	-	1	4
202047	Kinematics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
202048	Applied Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202049	Fluid Mechanics	3	2	-	30	70	-	-	25	125	3	1	-	4
202050	Manufacturing Processes	3	-	-	30	70	-	-	-	100	3	-	-	3
202051	Machine Shop	-	2	-	-	-	50	-	-	50	-	1	-	1
202052	Project Based Learning - II	-	4	-	-	-	50	-	-	50	-	2	-	2
202053	Audit Course - IV	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>		<b>15</b>	<b>12</b>	<b>1</b>	<b>150</b>	<b>350</b>	<b>125</b>	<b>-</b>	<b>75</b>	<b>700</b>	<b>15</b>	<b>6</b>	<b>1</b>	<b>22</b>

**Abbreviations:** TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral

**Note:** Interested students of SE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BoS (Automobile and Mechanical Engineering)

**Instructions**

- Practical/Tutorial must be conducted in three batches per division only.
- Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.
- Assessment of tutorial work has to be carried out as a term-work examination. Term-work Examination at second year of engineering course shall be internal continuous assessment only.
- Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.
- Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.



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**Savitribai Phule Pune University**  
**Board of Studies - Automobile and Mechanical Engineering**  
**Undergraduate Program - 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-V														
302041	Numerical & Statistical Methods	3	-	1	30	70	25	-	-	125	3	-	1	4
302042	Heat & Mass Transfer	3	2	-	30	70	-	50	-	150	3	1	-	4
302043	Design of Machine Elements	3	2	-	30	70	-	-	25	125	3	1	-	4
302044	Mechatronics	3	2	-	30	70	-	-	25	125	3	1	-	4
302045	Elective I	3	-	-	30	70	-	-	-	100	3	-	-	3
302046	Digital Manufacturing Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302047	Skill Development	-	2	-	-	-	25	-	-	25	-	1	-	1
302048	Audit course - V <sup>s</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	15	10	1	150	350	100	50	50	700	15	5	1	21
Semester-VI														
302049	Artificial Intelligence &Machine Learning	3	2	-	30	70	-	-	25	125	3	1	-	4
302050	Computer Aided Engineering	3	2	-	30	70	-	50	-	150	3	1	-	4
302051	Design of Transmission Systems	3	2	-	30	70	-	-	25	125	3	1	-	4
302052	Elective II	3	-	-	30	70	-	-	-	100	3	-	-	3
302053	Measurement Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302054	Fluid Power &Control Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302055	Internship/Mini project *	-	4	-	-	-	100	-	-	100	-	4	-	4
302056	Audit course - VI <sup>s</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	12	14	-	120	280	200	50	50	700	12	9	-	21
Elective-I					Elective-II									
302045-A	Advanced Forming & Joining Processes	302052-A			Composite Materials									
302045-B	Machining Science & Technology	302052-B			Surface Engineering									
Abbreviations: TH: Theory, PR: Practical, TUT: Tutorial, ISE: In-Semester Exam, ESE: End-Semester Exam, TW: Term Work, OR: Oral														
Note: Interested students of TE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BOS (Automobile and Mechanical Engineering)														
Instructions:														
<ul style="list-style-type: none"><li>Practical/Tutorial must be conducted in FOUR batches per division only.</li><li>Minimum number of Experiments/Assignments in PR/Tutorial shall be carried out <b>as mentioned in the syllabi</b> of respective courses.</li><li>Assessment of tutorial work has to be carried out similar to term-work. The Grade cum marks for Tutorial and Term-work shall be awarded on the basis of <b>continuous evaluation</b>.</li><li><sup>s</sup>Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point &amp; CGPA.</li></ul>														





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***1.3.1: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum***

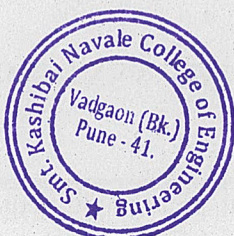
**Index**


<b>Sr. No.</b>	<b>Description</b>	<b>Page No.</b>
<b>1</b>	List of the courses that address crosscutting issues	<b>1</b>
<b>2</b>	Description of courses which address the crosscutting issues	<b>2</b>
<b>3</b>	Link for the relevant documents	<b>4</b>

**1. List of the courses that address crosscutting issues**

**Engineering Sciences**

<b>Sr. No.</b>	<b>Core Course</b>	<b>Course No.</b>	<b>Course Name</b>
1	F.E. Common	-	Democracy, Election and Governance
2	F.E. Common	101007	Environmental studies-I
3	F.E. Common	101014	Environmental studies-II
4	F.E. Common	110013	Project Based Learning



  
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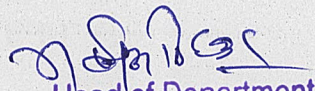
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**Department of Engineering Sciences**

2. Description of courses which address the crosscutting issues

Engineering Sciences

Core Course	Course No.	Course Name	crosscutting issues	Description of course
F.E. Common F.E. Common	-	Democracy, Election and Governance	Gender, Human values, Professional ethics	This course helps students to learn about democracy, constitution of India, evolution and various dimensions of democracy, various challenges of caste, gender, class and ethnicity. Meaning, role and various forms of government which helps them to understand various crosscutting issues.
F.E. Common	101007	Environmental studies-I	Human Values, Environment and Sustainability	This course highlights on knowledge about concepts and strategies related to sustainable development and various components of environment. Also creates awareness and gives information related to biotic and abiotic factors within an ecosystem, to identify food chains, energy flow and relationships. This course enhances ability to understand the value of biodiversity and current efforts to conserve biodiversity on national and local scale.
F.E. Common	101014	Environmental studies-II	Human Values, Environment and Sustainability	This course highlights on comprehensive overview of environmental pollution and the science and technology associated with the monitoring and control. To understand the evolution of environmental policies and laws. It also explain the concepts behind the interrelations between environment and the development. This course also examine a range of environmental issues in the field, and relate these to scientific theory.
F.E. Common	110013	Project Based Learning,	Professional ethics, Human Values,	This course enables students to emphasizes learning activities that are long-term, interdisciplinary and



  
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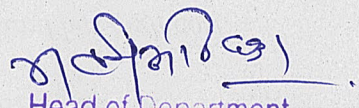


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			Environment and Sustainability	student-centric. Also it inculcate independent learning by problem solving with social context and to engages students in rich and authentic learning experiences. This course provide every student the opportunity to get involved either individually or as a group so as to develop team skills and learn professionalism.
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3. Link for the relevant documents



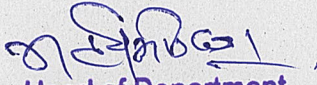
  
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Sr. No.	File Description	Link to Open
1	List and description of courses which address the Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.	



  
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**TABLE -1 First Engineering \_Structure for Semester-I**

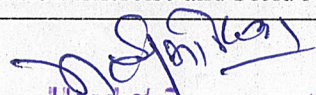
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	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>@</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>^</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											



  
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**Savitribai Phule Pune University, Pune**  
**For All faculties**

**2 credit Compulsory course for all the First Year students in All  
Faculties**

**Democracy, Election and Governance**

**Objectives:**

1. To introduce the students meaning of democracy and the role of the governance
2. To help them understand the various approaches to the study of democracy and governance

**Module 1 Democracy- Foundation and Dimensions**

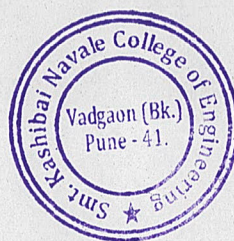
- a. Constitution of India
- b. Evolution of Democracy- Different Models
- c. Dimensions of Democracy- Social, Economic, and Political

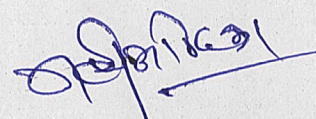
**Module 2 Decentralization**

- a. Indian tradition of decentralization
- b. History of panchayat Raj institution in the lost independence period
- c. 73<sup>rd</sup> and 74<sup>th</sup> amendments
- d. Challenges of caste, gender, class, democracy and ethnicity

**Module 3 Governance**

- a. Meaning and concepts
- b. Government and governance
- c. Inclusion and exclusion



  
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**1.3.1: Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum**

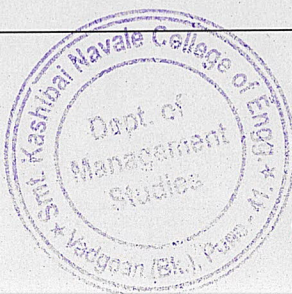
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Sr. No.	Description	Page No.
1	List of the courses that address crosscutting issues	
2	Description of courses which address the crosscutting issues	
3	Link for the relevant documents	

**1. List of the courses that address crosscutting issues**

**Computer Engineering**

Sr. No.	Core Course	Course No.	Course Name
1	F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	108	Business Communication Lab
2	F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	113	Personality Development Lab
3	S.Y MASTER OF BUSINESS ADMINISTRATION(2016)	210	Life Skills Lab
4	T.Y MASTER OF BUSINESS ADMINISTRATION(2016)	305 HR	Labour & Social Security Laws
5	T.Y MASTER OF BUSINESS ADMINISTRATION(2016)	317 HR	Lab in Labour Laws – I
6	F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	403 HR	Employment Relations
7	F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	404 HR	Strategic Human Resource Management
8	F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	406 HR	Global HRI
9	F.Y MASTER OF BUSINESS ADMINISTRATION(2019)	119	Human Rights-I
10	F.Y MASTER OF BUSINESS ADMINISTRATION(2019)	120	cyber security
11	F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC – 02	Organizational Behavior




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12	F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 03	Entrepreneurship Development
13	F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - IL - 01	Verbal Communication Lab
14	F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC - 03	Economic Analysis for Business Decisions
15	F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 05	Legal Aspects of Business
16	S.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 09	Startup and New Venture Management
17	S.Y MASTER OF BUSINESS ADMINISTRATION (2019)	SE - IL - HRM - 01	Labor Welfare
18	T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC - 11	Strategic Management
19	T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC - 13	Summer Internship Project*
20	T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 15	Project Management
21	T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	119	Human Rights-II
22	F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 21	Cyber Laws

  
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2. Description of courses which address the crosscutting issues

Master of Business Administration

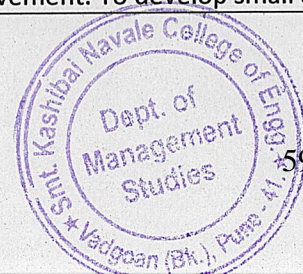
Core Course	Course No.	Course Name	crosscutting issues	Description of course
F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	108	Business Communication Lab	Professional ethics	Techniques for writing informational, persuasive, sales, employment, crisis communication, internal and external communications messaging. Students will explore the current business communication technology tools, including desktop publishing, video conferencing, and more.
F.Y MASTER OF BUSINESS ADMINISTRATION(2016)	113	Personality Development Lab	Professional ethics	Personality development helps you develop an impressive personality and makes you stand apart from the rest. Personality development also plays an essential role in improving one's communication skills. Individuals ought to master the art of expressing their thoughts and feelings in the most desired way.
S.Y MASTER OF BUSINESS ADMINISTRATION(2016)	210	Life Skills Lab	Professional ethics, Gender equality	Life skills that help student make carefully big decisions, communicate effectively with others, develop coping skills with surrounding circumstances, and manage oneself that leads to progress and success
T.Y MASTER OF BUSINESS ADMINISTRATION(2016)	305 HR	Labour & Social Security Laws	Professional ethics	To understand the Labor law is legislation specifying responsibilities and rights in employment, particularly the responsibilities of the employer and the rights of the employee
T.Y MASTER OF BUSINESS ADMINISTRATION(2016)	317 HR	Lab in Labor Laws – I	Professional ethics, Human values	Labor laws state the rights and benefits of employees is to equalize the bargaining power between employers and employees. The laws primarily deal with the relationship between employers and unions.



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F.Y MASTER OF BUSINESS ADMINISTRATION( 2016)	403 HR	Employment Relations	Professional ethics, Human values	This course teaches the students about behaviour and communication between an employee and their employer, especially relating to employees' rights and their happiness in their jobs
F.Y MASTER OF BUSINESS ADMINISTRATION( 2016)	404 HR	Strategic Human Resource Management	Professional ethics, Human values	This course involves a future-oriented process of developing and implementing HR programs that address and solve business problems and directly contribute to major long-term business objectives.
F.Y MASTER OF BUSINESS ADMINISTRATION( 2016)	406 HR	Global HRI	Professional ethics	This course involves practical way to solve the problem of recruiting and allowing you to understand how to attract workers from any location, culture, ethnicity, or gender by tearing down the barriers that would normally restrict your pool of available talent within the local market
F.Y MASTER OF BUSINESS ADMINISTRATION( 2019)	119	Human Rights-I	Human rights, Professional ethics and gender equality	Conceptual perspectives play a significant role for the promotion and realization of human rights. It promotes dignity, tolerance, peace, defend and advocate for their rights.
F.Y MASTER OF BUSINESS ADMINISTRATION( 2019)	120	cyber security	Human values and Professional ethics	Students understood the legal provisions of Information Technology Act, Case Law and practical ramifications of the Act through presentations.
F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC – 02	Organizational Behavior	Professional ethics, Moral & ethical values, Gender equality	Course focuses on crosscutting issues such as Human values, conflict management, stress management. Course covers areas like personality, attitude, perception, leadership, group & team dynamics.
F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 03	Entrepreneurship Development	Professional ethics	To make students learn compliance with law. To develop and fortify entrepreneurial quality, i.e., motivation or need for achievement. To develop small and

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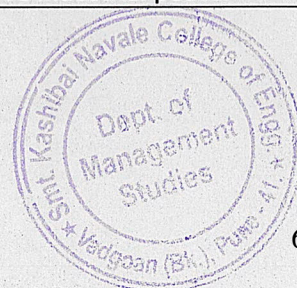


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				medium scale enterprises in order to generate employment and widen the scope of industrial ownership
F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - IL - 01	Verbal Communication Lab	Professional ethics	It provides students with the technical tools to get the best samples of pronunciation of the language. It develops communication skills in students and facilitates teachers with real-time monitoring. also builds confidence in students
F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC - 03	Economic Analysis for Business Decisions	Professional ethics	This course involves the Economic analysis which helps to understand the concepts of charities and their funders compare the value of the impact created by a social intervention with the cost of creating it
F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 05	Legal Aspects of Business	Professional ethics	Business students study the interaction of law and business can anticipate the legal needs of their companies and comprehend how laws and regulations can impact businesses in both positive and negative ways.
S.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 09	Startup and New Venture Management	Professional ethics	Entrepreneurship education aids students from all socioeconomic backgrounds to think outside the box and nurture unconventional talents and skills. It creates opportunities, ensures social justice, instills confidence and stimulates the economy.
S.Y MASTER OF BUSINESS ADMINISTRATION (2019)	SE - IL - HRM - 01	Labor Welfare	Professional ethics, Human values	This course involves learning of organization and laws related to labors. Students will understand how one can improve the moral and mental conditions of the workers by providing facilities workers have more confidence in their employer, which leads to improve industrial peace.

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T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC – 11	Strategic Managemen t	Professional ethics	This course focus on imbibing the sense of understanding the responsibility towards social as well as professional culture. Students get knowledge about how Effectively one can develop and implement corporate strategies. Set up realistic business objectives.
T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GC – 13	Summer Internship Project	Professional ethics	An internship enables students to gain first-hand exposure of working in the real world. It also allows students to harness the skill, knowledge, and theoretical practice they learnt in university
T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 15	Project Managemen t	Professional ethics	Project management guarantees that students will sharpen their communication skills. Therefore, it will be easy for them to learn how to understand and to be understood regarding the project. With quality communication, student will also get a chance of building a stable relationship with the clients
T.Y MASTER OF BUSINESS ADMINISTRATION (2019)	119	Human Rights-II	Professional ethics, human values and gender equality	Conceptual perspectives play a significant role for the promotion and realization of human rights. It promotes dignity, tolerance, peace, defend and advocate for their rights.
F.Y MASTER OF BUSINESS ADMINISTRATION (2019)	GE - UL - 21	Cyber Laws	Professional ethics	Students understood the legal provisions of Information Technology Act, Case Law and practical ramifications of the Act through presentations.

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