


**Faculty of Engineering
Savitribai Phule Pune University**



**Syllabus
of
Second Year of Computer Engineering
(Course 2015)
(with effect from June 2016)**




PRINCIPAL
Bharati Vidyapeeth's
College of Engineering for Women
Katraj, Dhankawadi, Pune-43


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

Abbreviations:

TW: Term Work
OR: Oral
PR: Practical

TH: Theory
TUT: Tutorial
Sem: Semester




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210250: Audit Course 1
ACI-III: Environmental Studies

Environmental studies are the field that examines this relationship between people and the environment. An environmental study is an interdisciplinary subject examining the interplay between the social, legal, management, and scientific aspects of environmental issues.

Course Objectives:

- Understanding the importance of ecological balance for sustainable development.
- Understanding the impacts of developmental activities and mitigation measures.
- Understand and realize the multi-disciplinary nature of the environment, its components, and inter-relationship between man and environment
- Understand the relevance and importance of the natural resources in the sustenance of life on earth and living standard

Course Outcomes:

On completion of the course, student will be able to–

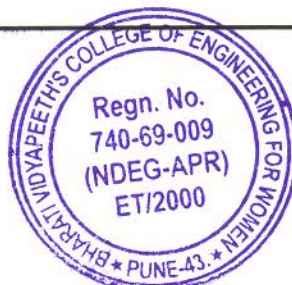
- Comprehend the importance of ecosystem and biodiversity
- To correlate the human population growth and its trend to the environmental degradation and develop the awareness about his/her role towards environmental protection and prevention
- Identify different types of environmental pollution and control measures
- To correlate the exploitation and utilization of conventional and non-conventional resources

Course Contents:

1. **Natural Resources:** Introduction, Renewable and non-renewable, Forest, water, mineral, food, energy and land resources, Individual and conservation of resources, Equitable use of resources.
2. **Ecosystems:** Concept, Structure, Function, Energy flow, Ecological succession, Forest, grassland, desert and aquatic ecosystems - Introduction, characteristic features, structure and function.
3. **Biodiversity:** Genetic, Species and ecological diversity, Biogeographical classification of India, Value and hot spots, Biodiversity at global, national and local levels, India as mega-biodiversity nation, Threats to biodiversity, Endangered and endemic species of India, Conservation of Biodiversity, Endangered and endemic species, Conservation of biodiversity.
4. **Pollution:** Definition, Causes, effects and control measures of the pollution – Air, soil, Noise, Water, Marine and Thermal and Nuclear Pollution, Solid waste management, Role of Individual in Prevention of Pollution, Pollution case studies, Disaster management

References:

1. Bharucha, E., –Textbook of Environmental Studies”, Universities Press (2005), ISBN-10:8173715408
2. Mahua Basu, —Environmental Studies”, Cambridge University Press, ISBN-978-1-107-5317-3



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

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TH: Theory
TUT: Tutorial
Sem: Semester

Syllabus for Second Year of Computer Engineering



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Second Year of Computer Engineering (2015 Course)
210258: Audit Course 2

In addition to credits, it is recommended that there should be audit course in preferably in each semester from second year to supplement their knowledge and skills. Student will be awarded the bachelor's degree if he/she earns 190 credits 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 in-semester 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. (Ref- http://www.unipune.ac.in/Syllabi_PDF/revise-2015/engineering/UG_RULE_REGULATIONS_FOR_CREDIT_SYSTEM-2015_18June.pdf)

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

- Lectures/ Guest Lectures
- Visits (Social/Field) and reports
- Demonstrations
- Surveys
- Mini Project
- Hands on experience on specific focused topic

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

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

Audit Course 2 Options

Audit Course Code	Audit Course Title
AC2-I	Water Management
AC2-II	Intellectual Property Rights and Patents
AC2-III	The Science of Happiness
AC2-IV	Stress Relief, Yoga and Meditation
AC2-V	Foreign Language (one of Japanese/Spanish/French/German) <u>Course contents for Japanese(Module 2) are provided. For other languages institute may design suitably.</u>




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