



# Sapthagiri College of Engineering

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi)

#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru 560057

Phone: 080-28372800/1/2 www.sapthagiri.edu.in Fax: 080-28372797

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## Department of Information science & Engineering

### 1.3.1 Institution integrates cross-cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

#### PROGRAM EDUCATIONAL OBJECTIVES (PEO)

The program educational objectives of Bachelor of Engineering in Information science and Engineering at Sapthagiri College of Engineering are broadly defined on following four counts.

**PEO 1:** Graduates will be able to successfully integrate the fundamentals of Information Science and Engineering with design tools and methodologies to build innovative systems and solve complex technological problems in their profession.

**PEO 2:** Graduates will begin their career or pursue higher studies in Information Science and Engineering or in their chosen field and apply the knowledge acquired for an appropriate time

**PEO 3:** Graduates will be advancing in their professional skills that prepare them for better growth in diverse career paths of Information Science and Engineering and related fields

**PEO 4:** Graduates will demonstrate inclination towards the needs of the society through professional ethics, research and service

Principal

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### PROGRAM SPECIFIC OUTCOMES (PSO)

At the end of the B.E Information science and engineering program, the students are expected to have developed the following program specific outcomes.

**PSO 1:** Students will be able to apply a sound fundamental knowledge in mathematics and physical sciences to information science engineering

**PSO 2:** Students will be able to analyze design and evaluate computer components and information systems using technology/suitable platform.

**PSO 3:** Apply modern technology to implement the components and its system.

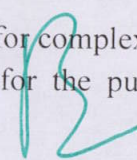
### PROGRAM OUTCOMES (POs)

Program outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge and behavior. Graduation of **Bachelor of Information Science and Engineering** program at Sapthagiri College of Engineering will attain the following program outcomes **in the field of Information Technology**

**PO 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO 2. Problem analysis:** Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

  
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- PO 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO 5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- PO 6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO 7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- PO 8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO 9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO 10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
- PO 11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- PO 12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life long learning in the broadest context of technological change.

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**Courses that integrates with Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum.**

Sl. No.	Subject	Subject Code	Curriculum	Deployment Strategy and Tool	PO	PSO	CO	Cross-cutting issues integrated
1	Software Engineering	15CS42	Educate students on software development and training to design environment friendly software.	Chalk and Talk method PPT	PO1,2,3,4,6,7,8,9,10,11,12	PSO2,3,	CO-(1-5)	Environmental Sustainability Professional Ethics
2	Management and entrepreneurship	15CS51	Educate the students on human values and professional ethics management of human resource, time, money and environment	Chalk and Talk method PPT	PO1,2,3,4,6,7,8,9,10,11,12	PSO1,2	CO-(1-5)	Human Values and Professional Ethics Environmental Sustainability
3.	Cryptography network security and cyber law	15CS61	Educate the students on cyber law, ethics and cyber security.	Chalk and Talk method PPT	PO1,2,3,4,7,8,9,11,12	PSO1,2,3	CO-(1-5)	Environmental Sustainability
4	Internet of things	15CS81	Students learn to build smart technology for the human benefits.	Chalk and Talk method PPT	PO1,2,3,4,7,9,11,12	PSO1,2,3	CO-(1-5)	Environmental Sustainability



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5	Big data and Analytics	15CS82	Students learn to build predictive model for the benefit of human values.	Chalk and Talk method  PPT	PO1,2,7	PSO1,2,7	C0-(1-5)	Environmental Sustainability
6	Internship	15CS84	Helps the students to do projects on different technologies with respect to industry standard and Ethics.	Chalk and Talk method, PPT, Software tools	PO7,8,9,10	PSO1,2		Professional Ethics Environmental Sustainability

*H.R. Ranganatha*

HOD,ISE

Dr. H.R. Ranganatha

Prof. & H.O.D

Dept. of Information Science & Engg.

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*B*

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