Department of Computer Science and 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 Computer Science and engineering at Sapthagiri College of Engineering are broadly defined on following four counts.

PEO 1: Graduates will have the expertise in analyzing real time problems and providing appropriate solutions related to Computer Science & Engineering.

PEO 2: Graduates will have the knowledge of fundamental principles and innovative technologies to succeed in higher studies, and research.

PEO 3: Graduates will continue to learn and to adapt technology developments combined with deep awareness of ethical responsibilities in profession

PROGRAM SPECIFIC OUTCOMES (PSO)

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

PSO 1: Apply the knowledge gained from Mathematics, Basic Computing, Basic Sciences and Social Sciences in general and all computer science courses in particular to identify, formulate and solve real life engineering problems.

PSO2: Identify the various analysis & design methodologies for facilitating development of high quality system software products with focus on performance optimization.

Principal

Sapthagiri College of Engineering

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PROGRAM OUTCOMES (POs)

Program outcomes are narrower statements that 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 Computer Science and engineering** program at Sapthagiri College of Engineering will attain the following program outcomes **in the field of Computer Science and engineering.**

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.

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.

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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.

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	Big data analytics	15CS82	**Students learn to build predictive model for the benefit of human kind**	Chalk and Talk method PPT	PO1,2,3,4,5,6,7,9,10,11,12	PSO1,2	CO-(1-5)	**Environmental Sustainability**
2	IOT	15CS81	**Students learn to build Smart devices in benefit of human kind**	Chalk and Talk method PPT	PO1,2,3,7,9,11,12	PSO1,2	CO-(1-5)	**Environmental Sustainability**
3	Internships	15CS84	**Educate students on industry standards, Ethics, and software development techniques**	Chalk and Talk method PPT	PO8,9,10	PSO1,2	CO-(1-4)	**Professional ethics**
4	Management and Entrepreneurship	15CS51	**Educate students on Professional Ethics and human values**	Chalk and Talk method PPT	PO1,2,34,6,7,8,9,10,11.12	PSO1,2	CO-(1-5)	**Human values, Professional ethics**

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| 5 | Software Engineering | 15IS45 | Educate students on software development techniques and train them in design environment friendly software. | Chalk and Talk method PPT | PO1,2,3,6,7,8, 11 | PSO1,2 | CO-(1-5) | Environmental Sustainability, Professional ethics |
| 6 | Cryptography and network security and cyber law | 15CS61 | Educate students on cyber law and Ethics | Chalk and Talk method PPT | PO1,2,3,4,5,6, 7,8,9,11,12 | PSO1,2,4 | CO-(1-3) | Environmental Sustainability |

HOD,CSE

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