2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website.

INDEX

2.6.1 Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website.

Institute Website:

PO's, PSO's and CO's have been displayed department wise on the website. The links for the proof of dissemination are given below

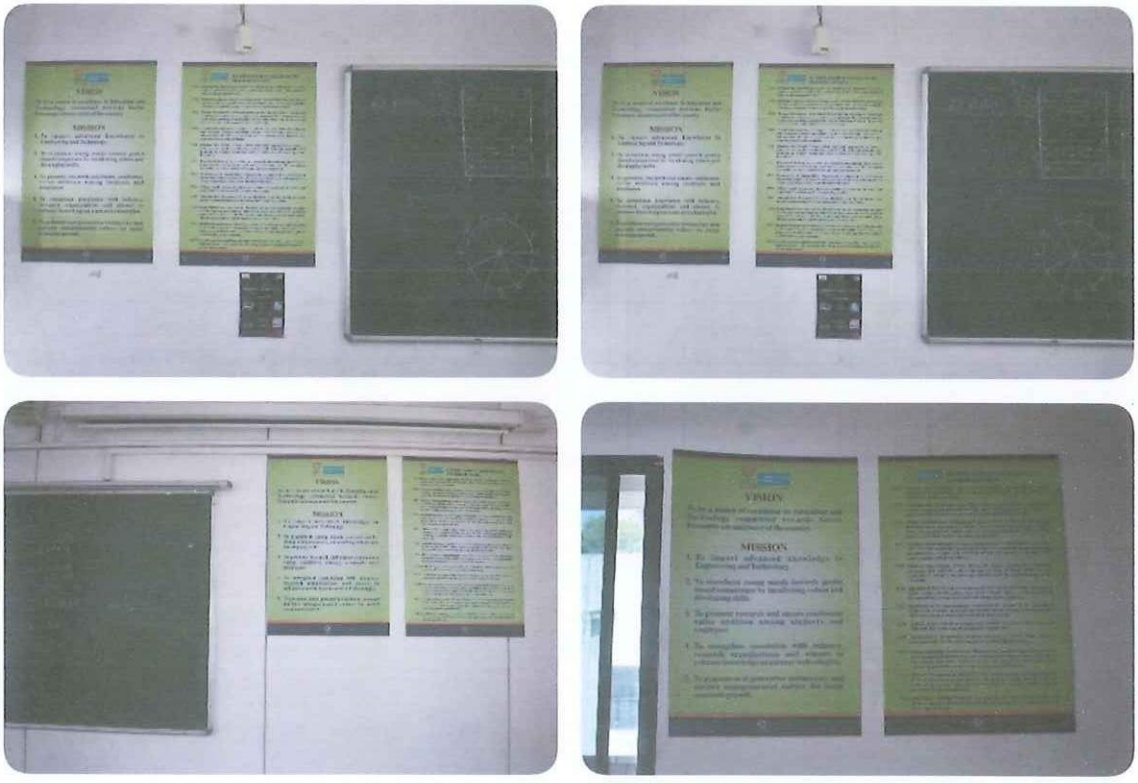
Computer Engineering: SIES | GST (siesgst.edu.in)

Electronics and Telecommunication Engineering: SIES | GST (siesgst.edu.in)

Information Technology: SIES | GST (siesgst.edu.in)

Mechanical Engineering: SIES | GST (siesgst.edu.in)

Classrooms:



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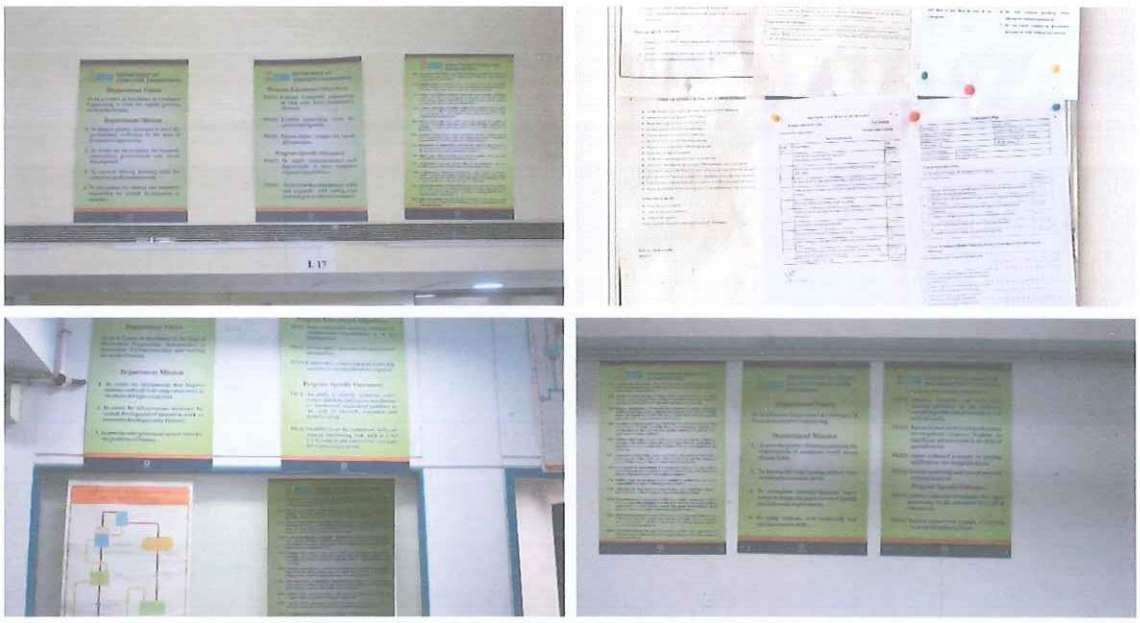
Laboratories:



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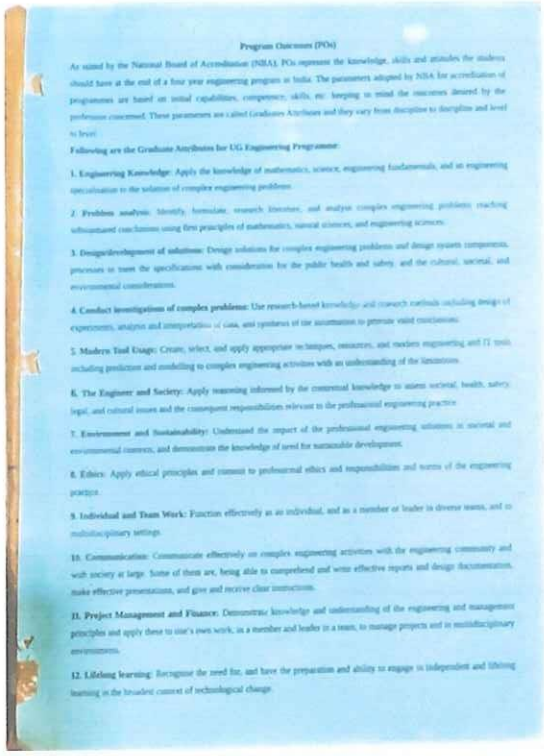
Dissemination of CO's and PO's in Faculty Handbook and Course Files



Program Outcomes (POs)

As stated by the National Board of Accreditation (NBA), POs represent the knowledge, skills and attitudes the students should have at the end of a four year engineering program in India. The parameters adopted by NBA for accreditation of programmes are based on initial capabilities, competence, skills, etc keeping in mind the outcomes desired by the profession concerned. These parameters are called Graduates Attributes and they vary from discipline to discipline and level to level.

Following are the Graduate Attributes for UG Engineering Programme:

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

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.

3. Design/development of solutions: Design solutions for complex engineering problems and design system components, processes to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations.

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.

5. Modern Tool Usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

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.

7. Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and for sustainable development.

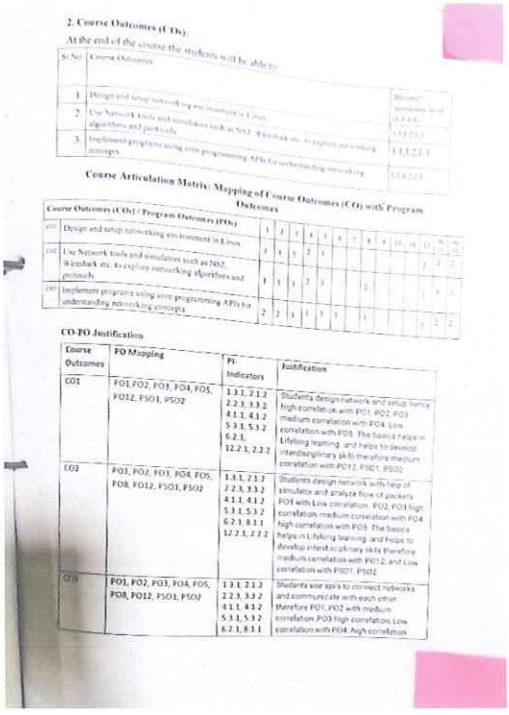
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and Team Work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large. Some of them are, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

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.

12. Lifelong learning: Recognise the need for, and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.



2. Course Outcomes (COs):

At the end of the course the students will be able to:

Sr.No	Course Outcomes	Bloom's Taxonomy Level
1	Design and setup networking environment in Linux	[illegible]
2	Use Network tools and simulators such as NS2, Wireshark etc. to explore networking algorithms and protocols	[illegible]
3	Implement programs using socket programming APIs for understanding networking concepts	[illegible]

Course Articulation Matrix: Mapping of Course Outcomes (CO) with Program Outcomes

Course Outcomes (COs) / Program Outcomes (POs)		1	2	3	4	5	6	7	8	9	10	11	12	PSO1	PSO2
CO1	Design and setup networking environment in Linux	3	3	3	2	3								2	2
CO2	Use Network tools and simulators such as NS2, Wireshark etc. to explore networking algorithms and protocols	3	3	3	2	3			2					2	2
CO3	Implement programs using socket programming APIs for understanding networking concepts	2	2	3	1	3	3		3					3	2

CO-PO Justification

Course Outcomes	PO Mapping	PI Indicators	Justification
CO1	PO1,PO2, PO3, PO4, PO5, PO12, PSO1, PSO2	1.3.1, 2.1.2 2.2.3, 3.3.2 4.1.2, 4.1.2 5.3.1, 5.3.2 6.2.1, 12.2.1, 2.2.2	Students design network and setup hence high correlation with PO1, PO2, PO3 medium correlation with PO4. Low correlation with PO5. The basics helps in Lifelong learning and helps to develop interdisciplinary skills therefore medium correlation with PO12, PSO1, PSO2
CO2	PO3, PO2, PO3, PO4, PO5, PO8, PO12, PSO1,PSO2	1.3.1, 2.1.2 2.2.3, 3.3.2 4.1.1, 4.1.2 5.3.1, 5.3.2 6.2.1, 8.1.1 12.2.1, 2.2.2	Students design network with help of simulator and analyze flow of packets PO1 with Low correlation. PO2, PO3 high correlation, medium correlation with PO4 high correlation with PO5. The basics helps in Lifelong learning and helps to develop interdisciplinary skills therefore medium correlation with PO12, and Low correlation with PSO1, PSO2
CO3	PO1, PO2, PO3, PO4, PO5, PO8, PO12, PSO1, PSO2	1.3.1, 2.1.2 2.2.3, 3.3.2 4.1.1, 4.1.2 5.3.1, 5.3.2 6.2.1, 8.1.1	Students use API's to connect networks and communicate with each other therefore PO1, PO2 with medium correlation. PO3 high correlation, Low correlation with PO4. High correlation

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Dissemination of CO's in first Lecture

Introduction

CE– TE– Artificial Intelligence

Arathi Boyanapalli
Assistant professor
Dept. of Computer Engineering
S.I.E.S Graduate School of Technology

Course Objectives

1. To conceptualize the basic ideas and techniques underlying the design of intelligent systems.
2. To make students understand and Explore the mechanism of mind that enables intelligent thought and action.
3. To make students understand advanced representation formalism and search techniques.
4. To make students understand how to deal with uncertain and incomplete information.

Course Outcomes

On completion of course learner will be able to:

1. Ability to develop a basic understanding of AI building blocks presented in intelligent agents.
2. Ability to choose an appropriate problem-solving method and knowledge representation technique.
3. Ability to analyze the strength and weaknesses of AI approaches to knowledge– intensive problem solving.
4. Ability to design models for reasoning with uncertainty as well as the use of unreliable information.
5. Ability to design and develop AI applications in real world scenarios.

Syllabus

Module		Content	Hrs
1		**Introduction to Artificial Intelligence**	4
	1.1	Introduction, History of Artificial Intelligence, Intelligent Systems, Categorization of Intelligent System, Components of AI Program, Foundations of AI, Sub-areas of AI, Applications of AI, Current trends in AI	
2		**Intelligent Agents**	4
	2.1	Agents and Environments, The concept of rationality, The nature of environment, The structure of Agents, Types of Agents, Learning Agent	
	2.2	Solving problem by Searching, Problem Solving Agent, Formulating Problems, Example Problems	
3		**Problem solving**	10
	3.1	Uninformed Search Methods: Breadth First Search (BFS), Depth First Search (DFS), Depth Limited Search, Depth First Iterative Deepening (DFID), Informed Search Methods: Greedy best first Search, A* Search, Memory bounded heuristic Search	
	3.2	Local Search Algorithms and Optimization Problems: Hill climbing search, Simulated annealing, Genetic algorithms	
	3.3	Adversarial Search: Game Playing, Min-Max Search, Alpha Beta Pruning	
4		**Knowledge and Reasoning**	12
	4.1	Knowledge based Agents, Brief Overview of propositional logic, First Order Logic: Syntax and Semantic, Inference in FOL, Forward chaining, Backward Chaining	
	4.2	Knowledge Engineering in First Order Logic: Unification, Resolution	

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Departmental Meetings

SIES Graduate School of Technology
RISE WITH EDUCATION

MEETING
Department Advisory Board

Department of Computer Engineering

Academic Year 2022 - 23

Advisory Board Members

S.N.	Name of member	Designation	Role in DAB
1	Dr. Aparna Bannore	HOD Computer	Chairman
2	Prof. Kalyani Pampattiwar	Assistant Professor	NBA Coordinator
3	Dr Razwana Umair Ahmed Siddiqui	Associate Professor	Senior Faculty
4	Dr. Deepti Reddy	Associate Professor	Senior Faculty
5	Dr. Anant Nimkar	Associate Professor, Computer Engineering , SFIT,Mumbai	Academic Expert
6	Mr. Jayant Dora	Product Designer, TCS Mumbai	Industry Expert
7	Mr. Atul Salkar	Managing Director, 9th Legend Inc	Industry Expert
8	Mr. Dhananjay Swami	Hospitality Consultant	Parent Representative
9	Mr. Shreedhar Ravinani	Software Engineer , Garnet Technology, Mumbai	Alumni Representative
10	Ms. Pooja Rao	Soft skill Trainer, TCS	Alumni Representative
11	Ms. Sushaya Deshmukh	Third Year	Lady Representative
12	Mr. Mohammed Sohail	Third Year	Boys Representative

Institute Vision

To be a centre of excellence in Education and Technology committed towards Socio-Economic advancement of the country

Institute Mission

1. To impart advanced knowledge in Engineering and Technology.
2. To transform young minds towards professional competence by inculcating values and developing skills.
3. To promote research and ensure continuous value addition among students and employees
4. To strengthen association with industry, research organizations and alumni to enhance knowledge on current technologies.
5. To promote next generation technocracy and nurture entrepreneurial culture for social-economic growth.

Program Outcomes

- **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems.
- **Problem analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- **Design/Development of solutions:** Design solutions for complex engineering problems and design system components, process to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations.
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- **Lifelong Learning:** Recognise the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.

Computer Department Vision

To be a Centre of Excellence in Computer Engineering to fulfil the rapidly growing needs of the Society.

Computer Department Mission

1. To Impart quality education to meet the professional challenges in the area of Computer Engineering.
2. To create an environment for research, innovation, professional and social development.
3. To nurture lifelong learning skills for achieving professional growth.
4. To strengthen the alumni and industrial interaction for overall development of students.

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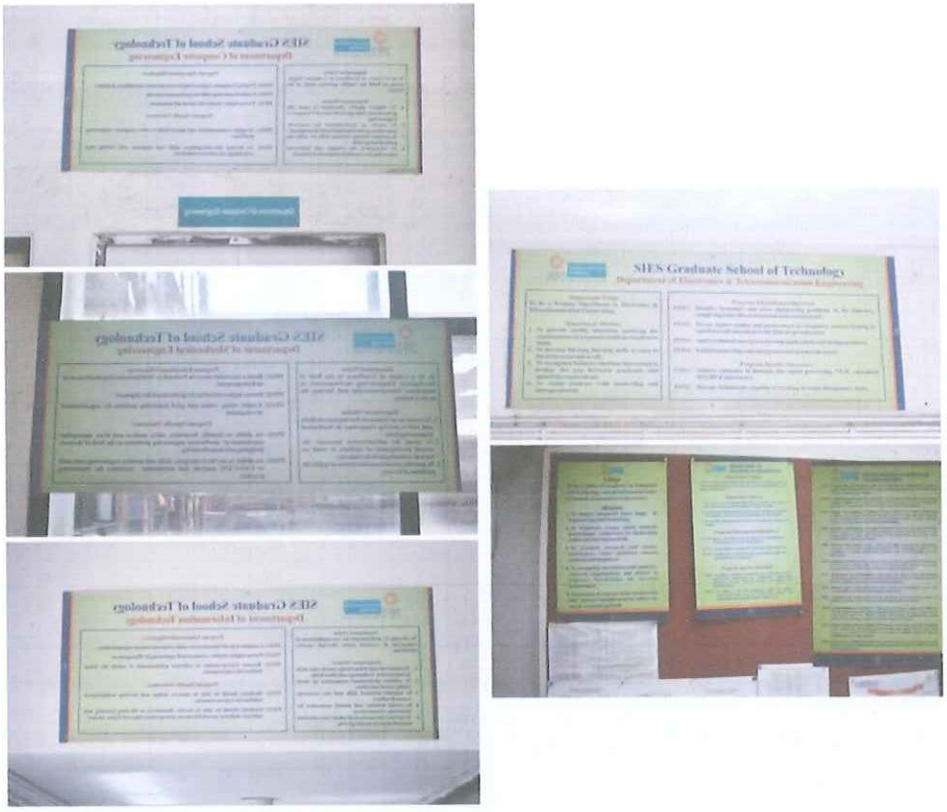

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