



SUDHARSAN ENGINEERING COLLEGE

(Approved by AICTE, New Delhi, affiliated to Anna University, Chennai & Accredited by NAAC)

Sathiyamangalam, Kulathur (TK), Pudukkottai District – 622 501

Mobile No: 98434 90901 Website: www.sec.ac.in Email: principal@sec.ac.in

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES

REGULATION - 2025



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EN25C01 – English Essentials – I

Course Outcomes

- **CO1:** Listen and comprehend spoken English, take and draft notes.
- **CO2:** Apply vocabulary and grammar appropriately to communicate in written and spoken forms.
- **CO3:** Analyze texts in different contexts using appropriate reading strategies.
- **CO4:** Communicate thoughts and ideas in real life situations.
- **CO5:** Develop communication skills relevant to engineering and technology.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | – | – | – | – | – | – | – | – | 1 | 2 | – | – | – | – |
| CO2 | – | – | – | – | – | – | – | – | 1 | 3 | – | – | – | – |
| CO3 | – | 2 | – | 1 | – | – | – | – | – | 1 | 2 | 1 | 1 | 1 |
| CO4 | – | – | – | – | – | – | – | – | 3 | 3 | – | – | – | 1 |
| CO5 | 1 | 2 | – | – | – | – | – | – | 3 | 3 | 2 | 1 | 2 | 2 |
| Avg. | 1 | 2 | | 1 | | | | | 2 | 2 | 2 | 1 | 1 | 1 |



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PH25C01 – Applied Physics – I

Course Outcomes

- **CO1:** Explain the physics concepts in various applications.
- **CO2:** Apply the principles of wave optics and laser physics in practical systems.
- **CO3:** Analyze the behavior of materials under different conditions.
- **CO4:** Conduct experiments in groups and interpret the data.
- **CO5:** Evaluate experimental results and theoretical models in applied physics to assess the performance and limitations of optical and material systems.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 3 | 1 | – | – | – | – | – | – | – | – | – | 1 | – | – |
| CO2 | 3 | 2 | 2 | – | 2 | – | – | – | – | – | – | 2 | 2 | – |
| CO3 | 2 | 3 | – | 1 | – | – | – | – | – | – | – | 1 | 2 | – |
| CO4 | 2 | 2 | – | 3 | 2 | – | – | – | 2 | 1 | – | – | 1 | 2 |
| CO5 | 2 | 3 | 2 | 3 | 2 | – | – | – | – | – | 2 | 2 | 3 | 3 |
| Avg. | 2 | 2 | 2 | 2 | 2 | | | | 2 | 1 | 2 | 2 | 2 | 2 |



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MA25C01 – Applied Calculus

Course Outcomes

- **CO1:** Explain the meaning of derivative, integral, and their geometric and physical interpretations.
- **CO2:** Apply differentiation and integration techniques to compute maxima, minima, and area.
- **CO3:** Analyze the behavior of single and multivariable functions using derivatives and partial derivatives.
- **CO4:** Utilize modern computational software and online platforms to deepen understanding, perform complex calculations and visualize mathematical concepts.
- **CO5:** Evaluate and solve real-world engineering and scientific problems by integrating concepts of calculus, including derivatives, integrals, and multivariable functions, and justify the solutions using appropriate mathematical reasoning and computational tools.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 3 | 1 | – | – | – | – | – | – | – | – | – | 1 | – | – |
| CO2 | 3 | 3 | 1 | – | – | – | – | – | – | – | – | 2 | 1 | – |
| CO3 | 2 | 3 | – | 1 | – | – | – | – | – | – | – | 1 | 2 | – |
| CO4 | 2 | 2 | – | 2 | 3 | – | – | – | – | – | 2 | – | 3 | 2 |
| CO5 | 2 | 3 | 2 | 2 | 3 | – | – | – | – | – | 2 | 2 | 3 | 3 |
| Avg. | 2 | 2 | 2 | 2 | 3 | | | | | | 2 | 2 | 2 | 2 |



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CY25C01 – Applied Chemistry – I

Course Outcomes

- **CO1:** Understand the importance of chemistry applications with underlying mechanisms.
- **CO2:** Apply the chemistry concepts in widely used devices.
- **CO3:** Analyze the effect of various chemical parameters on performance of engineering systems.
- **CO4:** Perform experimentations as a group and interpret the results.
- **CO5:** Communicate findings through case studies and reports.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 3 | 1 | – | – | – | – | – | – | – | – | – | 1 | – | – |
| CO2 | 3 | 2 | 2 | – | 1 | – | – | – | – | – | – | 1 | 2 | – |
| CO3 | 2 | 3 | – | 1 | – | – | – | – | – | – | – | 1 | 2 | – |
| CO4 | 2 | 2 | – | 3 | 2 | – | – | – | 2 | 1 | – | – | 1 | 2 |
| CO5 | 1 | 1 | – | – | – | – | – | – | 3 | 3 | 2 | – | 1 | 3 |
| Avg. | 2 | 2 | 2 | 2 | 2 | | | | 3 | 2 | 2 | 1 | 2 | 3 |



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CS25C01 – Computer Programming in C

Course Outcomes

- **CO1:** Explain the potential usage of ‘C’ in engineering applications
- **CO2:** To apply the concepts of ‘C’ in solving engineering problems and formulate new projects.
- **CO3:** To interpret the data and effectively communicate in groups.
- **CO4:** Adapt new programming concepts and technologies in the profession.
- **CO5:** Design, implement, and evaluate efficient C-based programs to solve real-world engineering problems by applying appropriate programming constructs, algorithms, and debugging techniques.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 3 | 1 | – | – | – | – | – | – | – | – | – | 1 | – | – |
| CO2 | 3 | 3 | 2 | – | 2 | – | – | – | – | – | – | 3 | 2 | – |
| CO3 | – | 1 | – | – | – | – | – | – | 3 | 3 | – | – | – | 2 |
| CO4 | 1 | – | – | – | 3 | – | – | – | – | – | 3 | – | 2 | 3 |
| CO5 | 2 | 3 | 3 | 2 | 3 | – | – | – | 2 | 1 | 2 | 3 | 3 | 3 |
| Avg. | 2 | 2 | 3 | 2 | 3 | | | | 3 | 2 | 3 | 2 | 2 | 3 |



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ME25C04 – Makerspace

Course Outcomes

- **CO1:** Demonstrate proper use and handling of basic hand and power tools.
- **CO2:** Carry out electrical wiring installations and repairs, applying safety measures in domestic applications.
- **CO3:** Develop solid innovative models through software.
- **CO4:** Adapt and follow safety protocols in the work environment.
- **CO5:** Design, fabricate, and evaluate functional prototypes by integrating mechanical, electrical, and digital fabrication tools while demonstrating teamwork, creativity, and problem-solving skills.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 2 | – | – | – | 2 | – | – | – | – | – | – | – | 1 | – |
| CO2 | 2 | 2 | – | – | 2 | 2 | 2 | – | – | – | – | – | 1 | – |
| CO3 | 1 | 2 | 2 | – | 3 | – | – | – | – | – | – | 2 | 3 | – |
| CO4 | – | – | – | – | – | 3 | 3 | 2 | – | – | – | – | – | 3 |
| CO5 | 2 | 3 | 3 | 2 | 3 | 2 | 2 | – | 3 | 2 | 2 | 3 | 3 | 3 |
| Avg. | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 3 |



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EE25C03 Fundamentals of Electrical and Electronics Engineering

Course Outcomes

- **CO1:** Explain core electrical engineering concepts.
- **CO2:** Apply basic engineering calculations in electrical systems.
- **CO3:** Identify common various components and its applications in various electrical circuits
- **CO4:** Analyze AC circuits, magnetic circuits, and basic power system components to understand their operation performance, and applications in electrical engineering systems.
- **CO5:** Evaluate and apply safety practices, wiring methods, and electronic devices to solve basic real-world electrical and electronic engineering problems.

CO–PO–PSO Mapping

| COs | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PSO1 | PSO2 | PSO3 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| CO1 | 3 | 1 | – | – | – | – | – | – | – | – | – | 1 | – | – |
| CO2 | 3 | 3 | 1 | – | – | – | – | – | – | – | – | 2 | – | – |
| CO3 | 2 | 2 | 2 | – | 2 | – | – | – | – | – | – | 3 | 2 | – |
| CO4 | 2 | 3 | – | 2 | 2 | – | – | – | – | – | – | 2 | 2 | 1 |
| CO5 | 2 | 3 | 2 | – | 2 | 2 | 2 | – | – | – | 1 | 2 | 3 | 2 |
| Avg | 2 | 2 | 1 | 2 | 2 | 2 | 2 | | | | 1 | 2 | 2 | 2 |