# Sree Chitra Thirunal College of Engineering

**Pappanamcode Thiruvananthapuram kerala –695018**

**principal@sctce.ac.in**

## Consolidated Course Outcomes Report

| Batch | Slno | Subject | CO | Topic | Bloom's taxonomy level |
|---|---|---|---|---|---|
| EC 2K20 A | 1 | ELECTROMAGNETICS LAB | CO1 | Familiarize the basic Microwave components and to analyse few microwave measurements and its parameters. | Applying(P) |
| | | | CO2 | Understand the principles of fiber-optic communications and the different kind of losses, signal distortion and other signal degradation factors. | Applying(P) |
| | | | CO3 | Design and simulate basic antenna experiments with simulation tools. | Evaluate(E) |
| | 2 | MICROWAVES AND ANTENNAS | CO1 | Understand the basic concept of antennas and its parameters. | Understanding(U) |
| | | | CO2 | Analyze the far field pattern of short dipole and Half wave dipole antenna | Analyzing(A) |
| | | | CO3 | Design of various broad band antennas, arrays and its radiation patterns | Applying(P) |
| | | | CO4 | Illustrate the principle of operation of cavity resonators and various microwave sources | Applying(P) |
| | | | CO5 | Explain various microwave hybrid circuits and microwave semiconductor devices | Understanding(U) |
| | 3 | Error Control Codes | CO1 | Describe the principles of block codes, types and their bounds | Applying(P) |
| | | | CO2 | Illustrate the principles of cyclic codes and Galois Fields, encoding and decoding of binary BCH codes and algorithms for finding the error location polynomial | Applying(P) |
| | | | CO3 | Demonstrate encoding, decoding and error locationof Reed Solomon codes and Reed Muller codes | Applying(P) |
| | | | CO4 | Illustrate the encoding and decoding of Convolution Codes and Turbo Codes | Applying(P) |
| | | | CO5 | Describe the encoding, decoding and applications of LDPC Codes | Applying(P) |
| | | | CO6 | Discuss the concepts of polar codes and its applications in 5G | Applying(P) |
| | 4 | MACHINE LEARNING | CO1 | Understand the basics of machine learning and different types. | Understanding(U) |
| | | | CO2 | Differentiate regression and classification, apply Bayes' decision theory in classification | Applying(P) |
| | | | CO3 | Apply linear algebra and statistical methods in discriminant based algorithms | Applying(P) |
| | | | CO4 | Understand the basics of unsupervised learning and non-metric methods | Understanding(U) |
| | | | CO5 | Understand ensemble methods, dimensionality reduction, evaluation, model selection. | Understanding(U) |
| | 5 | RENEWABLE ENERGY ENGINEERING | CO1 | Explain renewable energy sources and evaluate the implication of renewable energy. To predict solar radiation at a location | Understanding(U) |
| | | | CO2 | Explain solar energy collectors, storages, solar cell characteristics and applications | Understanding(U) |
| | | | CO3 | Explain the different types of wind power machines and control strategies of wind turbines | Understanding(U) |
| | | | CO4 | Explain the ocean energy and conversion devices and different Geothermal sources | Understanding(U) |
| | | | CO5 | Explain biomass energy conversion devices. Calculate the Net Present value and payback period | Understanding(U) |
| | 6 | PROJECT PHASE I | CO1 | Model and solve real world problems by applying knowledge across domains | Applying(P) |
| | | | CO2 | Develop products, processes or technologies for sustainable and socially relevant applications | Applying(P) |
| | | | CO3 | Function effectively as an individual and as a leader in diverse teams and to comprehend and execute designated tasks | Applying(P) |
| | | | CO4 | Plan and execute tasks utilizing available resources within timelines, following ethical and professional norms | Applying(P) |
| | | | CO5 | Identify technology/research gaps and propose innovative/creative solutions | Analyzing(A) |
| | | | CO6 | Organize and communicate technical and scientific findings effectively in written and oral forms | Applying(P) |

| | 7 | **OPTICAL FIBER COMMUNICATION** | **CO1** | "Understand the working and classification of optical fibers in terms of propagation modes | Understanding(U) |
|---|---|---|---|---|---|
| | | | **CO2** | "Understand transmission characteristics and losses in optical fiber | Understanding(U) |
| | | | **CO3** | "Explain the constructional features and the characteristics of optical sources and detectors | Understanding(U) |
| | | | **CO4** | " Describe the operations of optical amplifiers | Understanding(U) |
| | | | **CO5** | Understand the concept of WDM, FSO and LiFi | Understanding(U) |