



MACET
MARTHANDAM COLLEGE OF
ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Course Outcomes



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| S.No | Sem | Course Code | Course Name |
|------|-----|-------------|---|
| 1. | I | HS8151 | Communicative English |
| 2 | I | MA8151 | Engineering Mathematics |
| 3 | I | PH8151 | Engineering Physics |
| 4 | I | CY8151 | Engineering Chemistry |
| 5 | I | GE8151 | Problem Solving and Python Programming |
| 6 | I | GE8152 | Engineering Graphics |
| 7 | I | GE 8161 | Problem Solving and Python Programming Laboratory |
| 8 | I | BS8161 | Physics and Chemistry Laboratory (Group A) |
| 9 | I | BS8161 | Physics and Chemistry Laboratory (Group B) |
| 10 | II | HS8251 | Technical English |
| 11 | II | MA8251 | Engineering Mathematics -II |
| 12 | II | PH8253 | Physics for Electronics Engineering. |
| 13 | II | BE8254 | Basic Electrical and Instrumentation Engineering |
| 14 | II | EC8251 | Circuit Analysis |
| 15 | II | EC8252 | Electronic Devices |
| 16 | II | GE8261 | Engineering Practices Laboratory (Group A) |
| 17 | II | GE8261 | Engineering Practices Laboratory (Group B) |
| 18 | II | EC8261 | Circuits And Devices Laboratory |
| 19 | III | MA8352 | Linear Algebra and Partial Differential Equations |
| 20 | III | EC8351 | Electronic Circuits I |
| 21 | III | EC8352 | Signals and Systems |
| 22 | III | EC 8392 | Digital Electronics |
| 23 | III | EC8393 | Fundamentals of Data structures in C |
| 24 | III | EC8391 | Control System Engineering |
| 25 | III | EC8353 | Fundamentals of Datastructures in C Lab |
| 26 | III | EC8351 | Analog and Digital Circuits Laboratory |



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|----|-----|---------|---|
| 27 | III | HS8381 | Interpersonal Skills Listening & Speaking |
| 28 | IV | MA8451 | Probability and Random Processes |
| 29 | IV | EC8452 | Electronic Circuits II |
| 30 | IV | EC8491 | Communication Theory |
| 31 | IV | EC8451 | Electromagnetic Fields |
| 32 | IV | EC8453 | Linear integrated Circuits |
| 33 | IV | GE8291 | Environmental Science and Engineering |
| 34 | IV | EC8461 | Circuits and Design Laboratory |
| 35 | IV | EC8462 | Linear Integrated Circuits Laboratory |
| 36 | V | EC 8501 | Digital Communication |
| 37 | V | EC8553 | Discrete Time Signal Processing |
| 38 | V | EC 8552 | Computer Architecture and Organization |
| 39 | V | EC8551 | Communication Networks |
| 40 | V | EC8073 | Medical Electronics |
| 41 | VI | OMD551 | Basics of Biomedical Instrumentation |
| 42 | V | EC8563 | Communication Networks Laboratory |
| 43 | V | EC8562 | Digital Signal Processing Laboratory |
| 44 | V | EC8561 | Communication Systems Laboratory |
| 45 | VI | EC8691 | Microprocessor & Microcontroller |
| 46 | VI | EC8095 | VLSI Design |
| 47 | VI | EC8652 | Wireless Communication |
| 48 | VI | MG 8591 | Principles of Management |
| 49 | VI | EC8651 | Transmission Lines and RF Systems |
| 50 | VI | EC8004 | Wireless Networks |
| 51 | VI | EC8681 | Microprocessors and MicrocontrollersLab |
| 52 | VI | EC8661 | VLSI Design Laboratory |
| 53 | VI | HS8581 | Professional Communication |
| 54 | VII | EC8701 | Antennas and Microwave Engineering |



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|----|------|--------|------------------------------------|
| 55 | VII | EC8702 | Adhoc & Wireless Sensor Networks |
| 56 | VII | EC8791 | Embedded And Real Time Systems |
| 57 | VII | EC8751 | Optical Communication |
| 58 | VII | GE8071 | Disaster management |
| 59 | VII | OCH752 | Energy Technology |
| 60 | VII | EC8711 | Embedded Laboratory |
| 61 | VII | EC8761 | Advanced Communication Lab |
| 62 | VIII | GE8076 | Professional Ethics in Engineering |
| 63 | VIII | EC8094 | Satellite Communication |



PROGRAM OUTCOMES (POs)

List of Program Outcomes

| | |
|-------------|--|
| PO1 | Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. |
| PO2 | Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences |
| PO3 | 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. |
| PO4 | 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. |
| PO5 | 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. |
| PO6 | 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. |
| PO7 | 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. |
| PO8 | Ethics: Apply ethical principles and commit to professional ethics and Responsibilities and norms of the engineering practice. |
| PO9 | Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. |
| PO10 | 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. |
| PO11 | 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. |
| PO12 | 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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Program Specific Outcomes (PSOs)

List of Program Specific Outcomes

| | |
|-------------|--|
| PSO1 | To analyze, design and develop solutions by applying foundational concepts of electronics and communication engineering. |
| PSO2 | To apply design principles and best practices for developing quality products for scientific and business applications. |
| PSO3 | To adapt to emerging information and communication technologies (ICT) to innovate ideas and solutions to existing/novel problems |



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III SEMESTER



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Course Code & Course Name : **MA8352 Linear Algebra and Partial Differential Equations**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts. |
| CO2 | Demonstrate accurate and efficient use of advanced algebraic techniques. |
| CO3 | Demonstrate their mastery by solving non - trivial problems related to the concepts and by proving simple theorems about the statements proven by the text. |
| CO4 | Able to solve various types of partial differential equations. |
| CO5 | Able to solve engineering problems using Fourier series. |

Course Code & Course Name: EC8351 Electronic Circuits I

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Working principles, characteristics and applications of BJT and FET |
| CO2 | Frequency response characteristics of BJT and FET amplifiers |
| CO3 | Analyze the performance of small signal BJT and FET amplifiers |
| CO4 | Analyze the performance of single stage and multistage amplifiers |
| CO5 | Apply the knowledge gained in the design of Electronic circuits |

Course Code & Course Name : **EC8352 Signals and Systems**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | To be able to determine if a given system is linear/causal/stable |
| CO2 | Capable of characterizing LTI systems in the time domain and frequency domain |
| CO3 | Capable to analyze sampling and Z transform |
| CO4 | To be able to compute the output of an LTI system in the time and frequency domains |
| CO5 | Capable of determining the frequency components present in a deterministic signal |



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Course Code & Course Name : EC 8392 **Digital Electronics**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|--|
| CO1 | Use digital electronics in the present contemporary world |
| CO2 | Design various combinational digital circuits using logic gates |
| CO3 | Do the analysis and design procedures for synchronous and asynchronous sequential circuits |
| CO4 | Use the semiconductor memories and related technology |
| CO5 | Use electronic circuits involved in the design of logic gates |

Course Code & Course Name : EC8393 Fundamentals of Data structures in C

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Develop Programs using functions and Pointers. |
| CO2 | Implement linear and non-linear data structure operations using C |
| CO3 | Suggest appropriate linear / non-linear data structure for any given data set |
| CO4 | Apply hashing concepts for a given problem. |
| CO5 | Appropriately choose the sorting algorithm for an application |

Course Code & Course Name : EC8391 Control System Engineering

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Identify the various control system components and their representations. |
| CO2 | Analyze the various time domain parameters. |
| CO3 | Analysis the various frequency response plots and its system |
| CO4 | Apply the concepts of various system stability criterions. |



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|------------|--|
| CO5 | Design various transfer functions of digital control system using state variable models. |
|------------|--|

Course Code & Course Name :EC8353 Fundamentals of Datastructures in C **Lab**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Write basic and advanced programs in C |
| CO2 | Implement functions and recursive functions in C |
| CO3 | Implement linear data structures using C |
| CO4 | Implement non linear data structures using C |
| CO5 | Implement sorting and searching algorithm in C |

Course Code & Course Name: **EC8351 Analog and Digital Circuits Laboratory**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Design and Test rectifiers, filters and regulated power supplies |
| CO2 | Design and Test BJT/JFET amplifiers, Measure CMRR in differential amplifier |
| CO3 | Differentiate cascade and cascode amplifiers, Analyze the limitation in bandwidth of single stage and multi stage amplifier |
| CO4 | Simulate and analyze amplifier circuits using PSpice. |
| CO5 | Design and Test the digital logic circuits |

Course Code & Course Name: HS8381 Interpersonal Skills Listening & Speaking

COURSE OUTCOMES (COs)

List of Course Outcomes



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| | |
|------------|--|
| CO1 | Listen and respond appropriately |
| CO2 | Participate in group discussions. |
| CO3 | Make effective presentations. |
| CO4 | Participate confidently and appropriately in conversations both formal and informal. |

IV SEMESTER



Course Code & Course Name :MA8451 Probability and Random Processes

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon. |
| CO2 | Understand the basic concepts of one and two dimensional random variables and apply in engineering applications. |
| CO3 | Apply the concept random processes in engineering disciplines. |
| CO4 | Understand and apply the concept of correlation and spectral densities. |
| CO5 | The students will have an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable. Able to analyze the response of random inputs to linear time invariant systems. |

Course Code & Course Name:

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Analyze different types of amplifier, oscillator and multivibrator circuits |
| CO2 | Design BJT amplifier and oscillator circuits |
| CO3 | Analyze transistorized amplifier and oscillator circuits |
| CO4 | Design and analyze feedback amplifiers |
| CO5 | Design LC and RC oscillators, tuned amplifiers, wave shaping circuits, multivibrators, power amplifier and DC convertors |



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Course Code & Course Name: EC8491 Communication Theory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Design AM communication systems |
| CO2 | Summarize the concepts of Angle modulation systems |
| CO3 | Apply the concepts of Random Process to the design of Communication systems |
| CO4 | Analyze the noise performance of AM and FM systems |
| CO5 | Gain knowledge in sampling and quantization |

Course Code & Course Name: EC8451 Electromagnetic Fields

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | CO1: Display an understanding of fundamental electromagnetic laws and concepts |
| CO2 | Write Maxwell's equations in integral, differential and phasor forms and explain their physical meaning |
| CO3 | Explain electromagnetic wave propagation in lossy and in lossless media |
| CO4 | Solve simple problems requiring estimation of electric and magnetic field quantities based on these concepts and laws |
| CO5 | Apply vector calculus to understand the behaviour of static electric and magnetic fields in standard configurations |

Course Code & Course Name: EC8453 **Linear integrated Circuits**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Design basic building blocks of linear integrated circuits |
| CO2 | Design linear and non linear applications of OP – AMPS |
| CO3 | Design applications using analog multiplier and PLL |
| CO4 | Design ADC and DAC using OP – AMPS |



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| | |
|-----|---|
| CO5 | Generate waveforms using OP – AMP Circuits and analyse special function ICs |
|-----|---|

Course Code & Course Name :GE8291 Environmental Science and Engineering

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Environmental pollution cannot be solved by laws |
| CO2 | Public participation is important in environmental protection |
| CO3 | Public awareness of environment at infant stage. |
| CO4 | Ignorance and incomplete knowledge has lead to misconceptions. |
| CO5 | Development and improvement in standard of living has lead to serious environmental disasters |

Course Code & Course Name: EC8461 Circuits and Design Laboratory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Analyzevarious types of feedback amplifiers |
| CO2 | Designoscillators and tuned amplifiers |
| CO3 | Design wave-shaping circuits and multivibrators |
| CO4 | Design and simulate feedback amplifiers, oscillators using SPICE Tool |
| CO5 | Design and simulate tuned amplifiers, wave-shaping circuits and multivibrators using SPICE Tool |

Course Code & Course Name: EC8462 Linear Integrated Circuits Laboratory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Design amplifiers, oscillators, D-A converters using operational amplifiers. |
| CO2 | CO2: Design filters using op-amp and performs an experiment on frequency response |



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| | |
|------------|---|
| CO3 | Analyze the working of PLL and describe its application as a frequency multiplier |
| CO4 | Design DC power supply using ICs |
| CO5 | Analyze the performance of filters, multivibrators, A/D converter and analog multiplier using SPICE |



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V SEMESTER



Course Code & Course Name: EC 8501 Digital Communication

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Design PCM systems |
| CO2 | Design and implement base band transmission schemes |
| CO3 | Design and implement band pass signalling schemes |
| CO4 | Analyse the spectral characteristics of band pass signaling schemes and their noise performance |
| CO5 | Design error control coding schemes |

Course Code & Course Name: EC8553 Discrete Time Signal Processing

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Apply DFT for the analysis of digital signals and systems |
| CO2 | Design IIR and FIR filters |
| CO3 | Characterize the effects of finite precision representation on digital filters |
| CO4 | Design multirate filters |
| CO5 | Apply adaptive filters appropriately in communication systems |

Course Code & Course Name: EC 8552 Computer Architecture and Organization

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Describe data representation, instruction formats and the operation of a digital computer |
|------------|---|



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| | |
|------------|--|
| CO2 | Illustrate the fixed point and floating-point arithmetic for ALU operation |
| CO3 | Discuss about implementation schemes of control unit and pipeline performance |
| CO4 | Explain the concept of various memories, interfacing and organization of multiple processors |
| CO5 | Discuss parallel processing technique and unconventional architectures |

Course Code & Course Name:EC8551 Communication Networks

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Identify the components required to build different types of networks. |
| CO2 | Choose the required functionality at each layer for given application |
| CO3 | Identify solution for each functionality at each layer |
| CO4 | Trace the flow of information from one node to another node in the network. |
| CO5 | Understand the basic layers and its functions in computer networks. |

Course Code & Course Name:EC8073 Medical Electronics

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Know the human body electro- physiological parameters and recording of bio-potentials |
| CO2 | Comprehend the non-electrical physiological parameters and their measurement – body temperature, blood pressure, pulse, blood cell count, blood flow meter etc |
| CO3 | Interpret the various assist devices used in the hospitals viz. pacemakers, defibrillators, dialyzers and ventilators. |
| CO4 | Comprehend physical medicine methods eg. ultrasonic, shortwave, microwave surgical diathermies , and bio-telemetry principles and methods |



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|------------|---|
| CO5 | Know about recent trends in medical instrumentation |
|------------|---|

Course Code & Course Name: OMD551 Basics of Biomedical Instrumentation

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | To Learn the different bio potential and its propagation. |
| CO2 | To get Familiarize the different electrode placement for various physiological recording |
| CO3 | Students will be able design bio amplifier for various physiological recording |
| CO4 | Students will understand various technique non electrical physiological measurements |
| CO5 | Understand the different biochemical measurements |

Course Code & Course Name : EC8563 Communication Networks Laboratory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Communication between two desktop computers |
| CO2 | Implementation of different protocols |
| CO3 | To Implement Program using sockets |
| CO4 | To Implement and compare the various routing algorithms |
| CO5 | To Use the simulation tool |

Course Code & Course Name : EC8562 Digital Signal Processing Laboratory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Carryout basic signal processing operations |
| CO2 | Demonstrate their abilities towards MATLAB based implementation of various DSP systems |



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|------------|---|
| CO3 | Analyze the architecture of a DSP Processor |
| CO4 | Design and Implement the FIR and IIR Filters in DSP Processor for performing filtering operation over real-time signals |
| CO5 | Design a DSP system for various applications of DSP |

Course Code & Course Name:EC8561 Communication Systems Laboratory

Course Outcomes (CO)

| | |
|------------|--|
| CO1 | Simulate & validate the various functional modules of a communication system |
| CO2 | Demonstrate their knowledge in base band signaling schemes through implementation of digital modulation schemes |
| CO3 | Apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system |
| CO4 | Simulate Error control codingschemes |
| CO5 | Simulate end-to-end communication Link |



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VI SEMESTER



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Course Code & Course Name :EC8691 Microprocessor & Microcontroller

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|--|
| CO1 | Understand and execute programs based on 8086 microprocessor. |
| CO2 | Design Memory Interfacing circuits |
| CO3 | Design and interface I/O circuits |
| CO4 | Understand and execute programs based on 8051 microcontroller. |
| CO5 | Design and implement 8051 microcontroller based systems. |

Course Code & Course Name:EC8095 VLSI Design

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Realize the concepts of digital building blocks using MOS transistor. |
| CO2 | Design combinational MOS circuits and power strategies. |
| CO3 | Design and construct Sequential Circuits and Timing systems. |
| CO4 | Design arithmetic building blocks and memory subsystems |
| CO5 | Apply and implement FPGA design flow and testing |

Course Code & Course Name:EC8652

Wireless Communication

COURSE OUTCOMES (COs)



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List of Course Outcomes

| | |
|------------|--|
| CO1 | Characterizeawirelesschannelandevolvethesystemdesignspecifications |
| CO2 | Designacellular systembasedonresourceavailabilityandtrafficdemands |
| CO3 | Types of digital signals for fading channels |
| CO4 | Identifysuitable signalingandmultipathmitigationtechniquesforthewirelesschannelandsystemund erconsideration. |
| CO5 | Identify suitable multipleantennatechniques |

Course Code & Course Name:MG 8591 Principles of Management

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Identify the factors that make up an organization's environment and the four stages of an organization's life cycle |
| CO2 | Identify the relationship between strategic, tactical and operational plans |
| CO3 | Identify the stages of team development |
| CO4 | Identify the relationship between behaviors and motivation |
| CO5 | Identify the steps managers can take to implement planned change |

Course Code & Course Name: EC8651 Transmission Lines and RF Systems

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Explain the characteristics of transmission lines and its losses |
| CO2 | Write about the standing wave ratio and input impedance in high frequency transmission lines |
| CO3 | Analyze impedance matching by stubs using smith charts |
| CO4 | Analyze the characteristics of TE and TM waves |
| CO5 | Design a RF transceiver system for wireless communication |



Course Code & Course Name :EC8004 Wireless Networks

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Conversant with the latest 3G/4G networks and its architecture |
| CO2 | Implement the Network layer in the internet |
| CO3 | Design and implement wireless network environment for any application using latest wireless protocols and standards |
| CO4 | Ability to select the suitable network depending on the availability and requirement |
| CO5 | Implement different type of applications for smart phones and mobile devices with latest network strategies |

Course Code & Course Name:EC8681 Microprocessors and MicrocontrollersLab

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Write ALP Programmes for fixed and Floating Point and Arithmetic operation |
| CO2 | Interface different I/Os with processor |
| CO3 | Generate waveforms using Microprocessors |
| CO4 | Execute Programs in 8051 |
| CO5 | Explain the difference between simulator and Emulator |

Course Code & Course Name:EC8661 VLSI Design Laboratory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Write HDL code for basic as well as advanced digital integrated circuit |
| CO2 | Import the logic modules into FPGA Boards |



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| | |
|------------|--|
| CO3 | Synthesize Place and Route the digital IP |
| CO4 | Design the layouts of Digital & Analog IC Blocks using EDA |
| CO5 | Simulate and Extract the layouts of Digital & Analog IC Blocks using EDA |

Course Code & Course Name: HS8581 Professional Communication

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|--|
| CO1 | Enhance the Employability and Career Skills of students |
| CO2 | Orient the students towards grooming as a professional |
| CO3 | Make them Employability Graduates |
| CO4 | Develop their confidence and help them attend interviews successfully. |



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VII SEMESTER



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Course Code & Course Name: EC8701 Antennas and Microwave Engineering

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Apply the basic principles and evaluate antenna parameters and link power budgets |
| CO2 | Analyze the characteristics of radiation pattern of different antennas. |
| CO3 | Design and assess the performance of various antennas |
| CO4 | Design a microwave system given the application specifications |
| CO5 | Analyze the characteristics of microwave device and Design a RF transceiver system for wireless communication. |

Course Code & Course Name : EC8702 Adhoc & Wireless Sensor Networks

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|---|
| CO1 | Know the basics of Ad hoc networks and Wireless Sensor Networks |
| CO2 | Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement |
| CO3 | Apply the knowledge to identify appropriate physical and MAC layer protocols |
| CO4 | Understand the transport layer and security issues possible in Ad hoc and sensor networks. |
| CO5 | Be familiar with the OS used in Wireless Sensor Networks and build basic modules |

Course Code & Course Name: EC8791 Embedded And Real Time Systems

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|--|
| CO1 | To Outline the concepts of embedded system design and analysis |
| CO2 | To Describe the architecture and programming of ARM processor |
| CO3 | To Model real-time applications using embedded programming |



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|-----|--|
| CO4 | To Explain the basic concepts of real time operating system design |
| CO5 | To describe the concepts of multi task using multiprocessors |

Course Code & Course Name : **EC8751 Optical Communication**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|--|
| CO1 | Realize basic elements in optical fibers, different modes and configurations. |
| CO2 | Analyze the transmission characteristics associated with dispersion and polarization techniques. |
| CO3 | Design optical sources and detectors with their use in optical communication system. |
| CO4 | Construct fiber optic receiver systems, measurements and coupling techniques |
| CO5 | Design optical communication systems and its networks |

Course Code & Course Name : **GE8071 Disaster management**

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|-----|--|
| CO1 | Differentiate the types of disasters, causes and their impact on environment and societ |
| CO2 | Assess vulnerability and various methods of risk reduction measures as well as mitigation. |
| CO3 | Draw the hazard and vulnerability profile of India, Scenarios in the Indian context, Disaster damage assessment and management |
| CO4 | Examine the mitigation measures and recovery for different types of Disaster |
| CO5 | Assessment based on case studies |

Course Code & Course Name: **OCH752, Energy Technology.**

COURSE OUTCOMES (COs)



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List of Course Outcomes

| | |
|------------|---|
| CO1 | Understand Energy sources |
| CO2 | Understand conventional Energy sources |
| CO3 | Express their knowledge Non- conventional Energy sources. |
| CO4 | Understand biomass sources and develop design parameters for equipment to be used in Chemical process industries. |
| CO5 | Understand energy conservation in process industries. |

Course Code & Course Name : EC8711 Embedded Laboratory

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Learn the working of ARM processor |
| CO2 | Understand the Building Blocks of Embedded Systems |
| CO3 | Learn the concept of memory map and memory interface |
| CO4 | Write programs to interface memory, I/Os with processor |
| CO5 | Study the interrupt performance |

Course Code & Course Name: EC8761 Advanced Communication Lab

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Analyze the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber |
| CO2 | Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER |
| CO3 | Estimate the Wireless Channel Characteristics |
| CO4 | Analyze the performance of Wireless Communication System |
| CO5 | Understand the intricacies in Microwave System design. |



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Course Code & Course Name : GE8076 Professional Ethics in Engineering

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | To understand the core values that shapes the ethical behavior of an engineer and exposed awareness on professional ethics and human values |
| CO2 | To understand the basic perception of profession, professional ethics, various moral issues & uses of ethical theories. |
| CO3 | The students will understand various social issues, industrial standards, code of ethics and role of professional ethics in engineering field. |
| CO4 | The students will be aware of responsibilities of an engineer for safety and risk benefit analysis, professional rights and responsibilities of an engineer. |
| CO5 | The students will acquire knowledge about various roles of engineers in variety of global issues and able to apply ethical principles to resolve situations that arise in their professional lives. |

Course Code & Course Name: EC8094 Satellite Communication

COURSE OUTCOMES (COs)

List of Course Outcomes

| | |
|------------|---|
| CO1 | Analyze the satellite orbits |
| CO2 | Analyze the earth segment and space segment |
| CO3 | Analyze and design the various satellite Links |
| CO4 | Analyze the Different coding and frequency assignment methods |
| CO5 | Design various satellite applications |



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