



Course Outcomes (CO)

(R 2013)

Branch: B.E, Electronics and communication engineering

MA6351 Transforms And Partial Differential Equations (Odd)

C201.1	Able to understand the mathematical principles on transforms and partial differential equations
C201.2	Ability to apply partial differential equations in real time
C201.3	The ability to formulate and solve some of the physical problems of engineering.

EE 6352 Electrical Engineering and Instrumentation (Odd)

C202.1	Able to understand the three phase supply and power measurement.
C202.2	Able to understand the concepts in electrical generators, motors and transformers.
C202.3	Able to understand the basic measurement and instrumentation based devices.
C202.4	Able to understand the relevance of digital instruments in measurements.

EC 6301 Object Oriented Programming and Data Structures (Odd)

C203.1	Able to explain the concepts of Object oriented programming.
C203.2	Able to write simple applications using C++.
C203.3	Able to discuss the different methods of organizing large amount of data.

EC 6302 Digital Electronics (Odd)

C204.1	Able to analyze different methods used for simplification of Boolean expressions.
C204.2	Able to design and implement Combinational circuits.
C204.3	Able to design and implement synchronous and asynchronous sequential circuits.
C204.4	Able to write simple HDL codes for the circuits.

EC 6303 Signals And Systems (Odd)

C205.1	Able to analyze the properties of signals & systems.
C205.2	Able to apply Laplace transform, Fourier transform, Z transform and DTFT in signal analysis.
C205.3	Able to analyze continuous time LTI systems using Fourier and Laplace Transforms.
C205.4	Able to analyze discrete time LTI systems using Z transform and DTFT.

EC 6304 Electronic Circuits I (Odd)

C206.1	Able to design circuits with transistor biasing.
C206.2	Able to design simple amplifier circuits.
C206.3	Able to analyze the small signal equivalent circuits of transistors.
C206.4	Able to design and analyze large signal amplifiers.

EC 6311 Analog and Digital Circuits Laboratory (Odd)

C207.1	Able to differentiate cascade and cascode amplifier.
C207.2	Able to analyze the limitation in bandwidth of single stage and multi stage amplifier
C207.3	Able to simulate amplifiers using Spice
C207.4	Able to measure CMRR in differential amplifier

EC 6312 OOPS and Data Structures Laboratory (Odd)

C208.1	Able to design and implement C++ programs for manipulating stacks, queues, linked lists, trees, and graphs.
C208.2	Able to apply good programming design methods for program development.
C208.3	Able to apply the different data structures for implementing solutions to practical problems.

MA6451 Probability And Random Processes (Even)

C209.1	The students will have an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable.
C209.2	The students will have an exposure to the basic concepts in probability and random processes for applications such as random signals, linear systems etc in communication engineering.
C209.3	Able to analyze the response of random inputs to linear time invariant systems.

EC 6401 Electronic Circuits II (Even)

C210.1	Able to design and analyze feedback amplifiers.
C210.2	Able to design LC and RC oscillators, tuned amplifiers, wave shaping circuits, multivibrators, blocking oscillators and time base generators.
C210.3	Able to analyze performance of tuned amplifiers.

EC 6402 Communication Theory (Even)

C211.1	Able to design AM communication systems.
C211.2	Able to design Angle modulated communication systems
C211.3	Able to apply the concepts of Random Process to the design of Communication systems.
C211.4	Able to analyze the noise performance of AM and FM systems.

EC 6403 Electromagnetic Fields (Even)

C212.1	Able to analyze field potentials due to static changes and static magnetic fields.
C212.2	Able to explain how materials affect electric and magnetic fields.
C212.3	Able to analyze the relation between the fields under time varying situations.
C212.4	Able to discuss the principles of propagation of uniform plane waves.

EC 6404 Linear Integrated Circuits (Even)

C213.1	Able to design linear and non linear applications of op – amps.
C213.2	Able to design applications using analog multiplier and PLL.
C213.3	Able to design ADC and DAC using op – amps.
C213.4	Able to generate waveforms using op – amp circuits.
C213.5	Able to analyze special function ICs.

EC 6405 Control Systems (Even)

C214.1	Able to perform time domain and frequency domain analysis of control systems required for stability analysis.
C214.2	Able to design the compensation technique that can be used to stabilize control systems.
C214.3	The students will have an exposure to state variable analysis.

EC 6411 Circuits and Simulation Integrated Laboratory (Even)

C215.1	Able to analyse the characteristics of rectifiers
C215.2	Able to simulate amplifiers using Spice
C215.3	Able to design Bias Circuit for BJT
C215.4	Able to differentiate Class A and Class B Amplifiers

EC 6412 Linear Integrated Circuits Laboratory (Even)

C216.1	Able to design oscillators and amplifiers using operational amplifiers.
C216.2	Able to design filters using Opamp and perform experiment on frequency response.
C216.3	Able to analyse the working of PLL and use PLL as frequency multiplier.
C216.4	Able to design DC power supply using ICs.
C216.5	Able to analyse the performance of oscillators and multivibrators using SPICE

EE 6461 Electrical Engineering and Control System Laboratory (Even)

C217.1	Able to perform experiments to study the load characteristics of DC motors / generators.
C217.2	Able to design bridge network circuit to measure the values of passive component.
C217.3	Able to analyse the stability of linear system through simulation software.
C217.4	Able to obtain transfer function of DC generators.

EC 6501 Digital Communication (Odd)

C301.1	Able to design PCM systems.
C301.2	Able to design and implement base band transmission schemes.
C301.3	Able to design and implement band pass signaling schemes.
C301.4	Able to analyze the spectral characteristics of band pass signaling schemes and their noise performance.
C301.5	Able to design error control coding schemes .

EC 6502 Principles of Digital Signal Processing (Odd)

C302.1	Able to apply DFT for the analysis of digital signals & systems.
C302.2	Able to design IIR and FIR filters.
C302.3	Able to characterize finite Word length effect on filters.
C302.4	Able to design the Multirate Filters.
C302.5	Able to apply Adaptive Filters to equalization.

EC 6503 Transmission Lines And Waveguides (Odd)

C303.1	Able to discuss the propagation of signals through transmission lines.
C303.2	Able to analyze signal propagation at Radio frequencies.
C303.3	Able to explain radio propagation in guided systems.
C303.4	Able to utilize cavity resonators.

GE 6351 Environmental Science And Engineering (Odd)

C304.1	Obtain knowledge regarding public awareness of environment at infant stage.
C304.2	Insist that the public participation is an important aspect which serves the environmental Protection.
C304.3	Ability to understand that the development and improvement in standard of living has lead to serious environmental disasters.

EC 6504 Microprocessor And Microcontroller (Odd)

C305.1	Able to design and implement programs on 8086 microprocessor.
C305.2	Able to design I/O circuits.
C305.3	Able to design Memory Interfacing circuits.
C305.4	Able to design and implement 8051 microcontroller based systems.

EC 6511 Digital Signal Processing Laboratory (Odd)

C306.1	Able to carry out simulation of DSP systems.
C306.2	Able to demonstrate their abilities towards DSP processor based implementation of DSP systems.
C306.3	Able to analyze Finite word length effect on DSP systems.
C306.4	Able to demonstrate the applications of FFT to DSP.
C306.5	Able to implement adaptive filters for various applications of DSP.

EC 6512 Communication Systems Laboratory (Odd)

C307.1	Able to simulate end-to-end Communication Link
C307.2	Able to demonstrate their knowledge in base band signaling schemes through implementation of FSK, PSK and DPSK
C307.3	Able to apply various channel coding schemes & demonstrate their capabilities towards the improvement of the noise performance of communication system
C307.4	Able to simulate & validate the various functional modules of a communication system .

EC 6513 Microprocessor and Microcontroller Laboratory (Odd)

C308.1	Able to write ALP programs for fixed and Floating Point and Arithmetic
C308.2	Able to interface different I/Os with processor
C308.3	Able to generate waveforms using Microprocessors .
C308.4	Able to execute Programs in 8051
C308.5	Able to explain the difference between simulator and Emulator

MG 6851 Principles Of Management (Even)

C309.1	Able to understand managerial functions like planning, organizing, staffing.
C309.2	Able to direct a group and control the group.
C309.3	The students are exposed to the basic knowledge on international aspect of management

CS6303 Computer Architecture (Even)

C310.1	Able to design arithmetic and logic unit.
C310.2	Able to design and analyze pipelined control units.
C310.3	Able to evaluate performance of memory systems.
C310.4	Able to understand parallel processing architectures.

CS6551 Computer Networks (Even)

C311.1	Able to identify the components required to build different types of networks.
C311.2	Able to choose the required functionality at each layer for given application.
C311.3	Able to identify solution for each functionality at each layer.
C311.4	Able to trace the flow of information from one node to another node in the network.

EC 6601 VLSI Design (Even)

C312.1	Able to explain the basic CMOS circuits and the CMOS process technology.
C312.2	Able to discuss the techniques of chip design using programmable devices.
C312.3	Able to model the digital system using Hardware Description Language.

EC 6602 Antennas And Wave Propagation (Even)

C313.1	Able to explain the various types of antennas and wave propagation.
C313.2	Able to explain about the radiation from a current element.
C313.3	Able to analyze the antenna arrays, aperture antennas and special antennas such as frequency independent and broad band.

EC 6001 Medical Electronics (Even)

C314.1	Able to discuss the application of electronics in diagnostic and therapeutic area.
C314.2	Able to measure biochemical and various physiological information.
C314.3	Able to describe the working of units which will help to restore normal functioning.

EC 6003 Robotics and Automation (Even)

C315.1	Able to explain the basic concepts of working of robot.
C315.2	Able to analyze the function of sensors in the robot.
C315.3	Able to write program to use a robot for a typical application.
C315.4	Able to use Robots in different applications.

EC 6611 Computer Networks Laboratory (Even)

C316.1	Able to communicate between two desktop computers .
C316.2	Able to implement the different protocols
C316.3	Able to program using sockets.
C316.4	Able to implement and compare the various routing algorithms
C316.5	Able to use simulation tool.

EC 6612 VLSI Design Laboratory (Even)

C317.1	Able to write HDL code for basic as well as advanced digital integrated circuits.
C317.2	Able to import the logic modules into FPGA Boards.
C317.3	Able to synthesize, Place and Route the digital IPs.
C317.4	Able to design, Simulate and Extract the layouts of Analog IC Blocks using EDA tools.

GE 6674 Communication and Soft skills Laboratory (Even)

C318.1	Able to take international examination such as IELTS and TOEFL
C318.2	Able to make presentations and Participate in Group Discussions.
C318.3	Able to successfully answer questions in interviews.

EC 6701 RF and Microwave Engineering (Odd)

C401.1	Able to explain the active & passive microwave devices & components used in Microwave communication systems.
C401.2	Able to analyze the multi- port RF networks and RF transistor amplifiers.
C401.3	Able to generate Microwave signals and design microwave amplifiers.
C401.4	Able to measure and analyze Microwave signal and parameters.

EC 6702 Optical Communication and Networks (Odd)

C402.1	Able to discuss the various optical fiber modes, configurations and various signal degradation factors associated with optical fiber.
C402.2	Able to explain the various optical sources and optical detectors and their use in the optical communication system.
C402.3	Able to analyze the digital transmission and its associated parameters on system performance.

EC 6703 Embedded and Real Time Systems (Odd)

C403.1	Able to describe the architecture and programming of ARM processor.
C403.2	Able to explain the concepts of embedded systems.
C403.3	Able to explain the basic concepts of real time Operating system design.
C403.4	Able to use the system design techniques to develop software for embedded systems.
C403.5	Able to differentiate between the general purpose operating system and the real time operating system.
C403.6	Able to design model real-time applications using embedded-system concepts.

EC 6004 Satellite Communication (Odd)

C404.1	Able to analyze the satellite orbits.
C404.2	Able to analyze the earth segment and space segment.
C404.3	Able to design various satellite applications

EC 6011 Electromagnetic Interference and Compatibility (Odd)

C405.1	Find solution to EMI Sources, EMI problems in PCB level / Subsystem and system level design.
C405.2	Gains knowledge on the EMI coupling mechanism and its mitigation techniques.
C405.3	To measure emission immunity level from different systems to couple with the prescribed EMC standards

EC 6014 Cognitive Radio (Odd)

C406.1	Able to describe the basics of the software defined radios.
C406.2	Able to design the wireless networks based on the cognitive radios
C406.3	Able to explain the concepts behind the wireless networks and next generation networks

EC 6711 Embedded Laboratory (Odd)

C407.1	Able to write programs in ARM for a specific Application
C407.2	Able to interface memory and Write programs related to memory operations
C407.3	Able to interface A/D and D/A converters with ARM system
C407.4	Able to analyse the performance of interrupt
C407.5	Able to write programmes for interfacing keyboard, display, motor and sensor.
C407.6	Able to formulate a mini project using embedded system

EC 6712 Optical and Microwave Laboratory (Odd)

C408.1	Able to analyze the performance of simple optical link.
C408.2	Able to test microwave and optical components.
C408.3	Able to analyse the mode characteristics of fiber
C408.4	Able to analyse the radiation of pattern of antenna.

EC 6801 Wireless Communication (Even)

C409.1	Able to characterize wireless channels.
C409.2	Able to design and implement various signaling schemes for fading channels.
C409.3	Able to compare multipath mitigation techniques and analyze their performance.
C409.4	Able to design and implement systems with transmit/receive diversity and MIMO systems and analyze their performance

EC 6802 Wireless Networks (Even)

C410.1	Conversant with the latest 3G/4G and WiMAX networks and its architecture.
C410.2	Able to design and implement wireless network environment for any application using latest wireless protocols and standards.
C410.3	Able to implement different type of applications for smart phones and mobile devices with latest network strategies.

GE 6075 Professional Ethics in Engineering (Even)

C411.1	Able to apply ethics in the society
C411.2	Helps to discuss the ethical issues related to engineering
C411.3	Realize the responsibility & rights in the society.

GE 6757 Total Quality Management (Even)

C412.1	To understand the quality management principles and process.
C412.2	Able to apply the tools and techniques of quality management
C412.3	Able to apply the tools and techniques to manufacturing & services processes.

EC 6811 Project Work (Even)

C413.1	Able to practice Project Management principles while developing a hardware.
C413.2	Able to take up any challenging practical problems
C413.3	Able to find solution by formulating proper methodology.