

BHARATHIYAR INSTITUTE OF ENGINEERING FOR WOMEN, DEVIYAKURICHI
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
REGULATION : 2021

Course/Branch	:	B.E. / ECE	Subject Title	:	RANDOM PROCESSES AND LINEAR
Subject Code	:	MA3355	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C401.1	Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.
C401.2	Demonstrate accurate and efficient use of advanced algebraic techniques.
C401.3	Apply the concept of random processes in engineering disciplines.
C401.4	Understand the fundamental concepts of probability with a thorough knowledge of standard distributions that can describe certain real-life phenomenon.
C401.5	Understand the basic concepts of one and two dimensional random variables and apply them to model engineering problems.
C401.6	

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C401.1	3	2	2	2	1	-	-	-	-	-	1	1	1	-
C401.2	3	-	2	2	1	1	-	-	-	-	1	1	1	-
C401.3	3	2	2	2	1	1	-	-	-	-	1	1	1	-
C401.4	3	2	2	2	1	-	-	-	-	-	1	1	1	-
C401.5	3	2	2	2	1	-	-	-	-	-	1	1	1	-
C401.6	3	2	2	2	1	1	-	-	-	-	1	1	1	-
C401	3	2	2	2	1	1	-	-	-	-	1	1	1	-

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Course/Branch	:	B.E. / ECE	Subject Title	:	Optical Communication
Subject Code	:	EC 8751	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C402.1	Realize basic elements in optical fibers, different modes and configurations.
C402.2	Analyze the transmission characteristics associated with dispersion and polarization techniques.
C402.3	Design optical sources and detectors with their use in optical communication system.
C402.4	Construct fiber optic receiver systems, measurements and coupling techniques.
C402.5	Design optical communication systems and its networks.
C402.6	Analyze Optical power measurement-attenuation measurement-dispersion measurement

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C402.1	3	2	3	2	-	-	-	-	-	-	-	1	2	1
C402.2	3	2	3	2	-	1	1	1	-	-	1	1	2	1
C402.3	3	2	3	2	-	1	1	1	-	-	1	1	2	1
C402.4	3	2	3	2	-	-	-	1	-	-	-	1	2	1
C402.5	3	2	3	2	-	-	-	1	-	-	-	1	2	1
C402.6	3	2	3	2	-	-	-	-	-	-	-	1	2	1
C402	3	2	3	2	-	1	1	1	-	-	1	1	2	1

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Course/Branch	:	B.E. / ECE	Subject Title	:	Embedded Real Time Systems
Subject Code	:	EC 8791	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C403.1	Describe the architecture and programming of ARM processor
C403.2	Outline the concepts of embedded systems
C403.3	Explain the basic concepts of real time operating system design
C403.4	Differentiate between the general purpose operating system and the real time operating system.
C403.5	Explain the concept of design methodologies techniques for embedded system.
C403.6	Model real-time applications using embedded-system concepts

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C403.1	3	2	3	2	1	-	-	-	-	-	-	1	3	2
C403.2	3	2	3	2	1	-	1	-	-	-	-	1	3	2
C403.3	3	2	3	2	1	-	1	-	-	-	-	1	3	2
C403.4	3	2	2	2	1	-	-	-	1	-	-	1	3	2
C403.5	3	2	2	2	1	-	-	-	-	-	-	1	3	2
C403.6	3	2	3	2	1	-	-	-	1	-	-	1	3	2
C403	3	2	3	2	1	-	1	-	1	-	-	1	3	2

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Course/Branch	:	B.E. / ECE	Subject Title	:	Adhoc and Wireless Sensor Networks
Subject Code	:	EC 8702	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C404.1	Know the basics of Ad hoc networks and Wireless Sensor Networks
C404.2	Apply this knowledge to identify the suitable routing algorithm based on the network and user requirement
C404.3	Apply the knowledge to identify appropriate physical and MAC layer protocols
C404.4	Understand the transport layer and security issues possible in Ad hoc and sensor networks
C404.5	Be familiar with the OS used in Wireless Sensor Networks and build basic modules
C404.6	Apply Layer wise attacks in wireless sensor networks

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C404.1	3	3	2	2	1	1	-	-	-	-	-	-	1	2
C404.2	3	3	2	2	1	1	1	1	-	-	1	1	1	2
C404.3	3	3	2	2	1	1	1	1	-	-	1	1	1	2
C404.4	3	2	2	2	1	1	-	1	-	-	-	-	1	2
C404.5	3	2	2	2	1	1	-	1	-	-	-	1	1	2
C404.6	3	3	2	2	1	1	-	-	-	-	-	-	1	2
C404	3	3	2	2	1	1	1	1	-	-	1	1	1	2

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Course/Branch	:	B.E. / ECE	Subject Title	:	Disaster Management
Subject Code	:	GE 8071	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C405.1	Analyze the Categories Disasters and the Relationship between Development and Disasters.
C405.2	Promote Prevention and Preparedness for disaster.
C405.3	Induce knowledge to create appropriate planning, preparation and response for emergency treatment in disaster situation.
C405.4	Ability to build capacities for Outbreak investigating disease epidemics during and after disaster.
C405.5	Describe the international cooperation by identification of International Agencies in Disasters Management.
C405.6	Describe the Roles and Responsibilities of Panchayat, urban and Local bodies in Disaster Management.

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C405.1	1	-	2	-	-	2	3	-	3	1	2	-	-	1
C405.2	1	-	2	-	-	2	3	-	3	1	-	-	-	1
C405.3	1	-	2	-	2	2	3	-	3	-	2	-	-	1
C405.4	1	-	2	-	2	2	3	-	3	-	2	-	-	1
C405.5	1	-	2	-	-	2	3	-	3	-	-	-	-	1
C405.6	1	-	2	-	-	2	3	-	3	-	-	-	-	1
C405	1	-	2	-	2	2	3	-	3	1	2	-	-	1

Course Outcomes:

Course/Branch	:	B.E. / ECE	Subject Title	:	Introduction to C Programming
Subject Code	:	OCS 752	Year/Semester	:	IV/VII

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Students must be able to

C406.1	Develop simple applications using basic programming constructs.
C406.2	Develop applications using arrays.
C406.3	Develop applications using strings.
C406.4	Develop applications using pointer.
C406.5	Develop applications using functions.
C406.6	Develop applications using structure.

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C406.1	3	2	1	1	-	-	-	-	1	-	2	2	1	1
C406.2	3	2	1	1	-	-	-	-	1	-	2	2	1	1
C406.3	3	2	1	1	-	-	-	-	1	-	2	2	1	1
C406.4	3	2	1	1	-	-	-	-	1	-	2	2	1	1
C406.5	3	2	1	1	-	-	-	-	1	-	2	2	1	1
C406.6	3	2	1	1	-	-	-	-	1	-	2	2	1	1
C406	3	2	1	1	-	-	-	-	1	-	2	2	1	1

Course/Branch	:	B.E. / ECE	Subject Title	:	Embedded Laboratory
Subject Code	:	EC 8711	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

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C407.1	Write programs in ARM for a specific Application
C407.2	Interface A/D and D/A convertors with ARM system
C407.3	Interface memory and Write programs related to memory operations
C407.4	Analyze the performance of interrupt
C407.5	Write programs for interfacing keyboard, display and motor
C407.6	Formulate a mini project using embedded system

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	1	2	3	4	5	6	7	8	9	10	11
C407.1	3							3			
C407.2		3									
C407.3			3	3		3					
C407.4									3		
C407.5					3					3	
C407.6							3				3
C407	3	3	3	3	3	3	3	3	3	3	3

Course/Branch	:	B.E. / ECE	Subject Title	:	Advanced Communication Laboratory
Subject Code	:	EC 8761	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C408.1	Analyze the performance of simple optical link by measurement of losses and Analyzing the mode characteristics of fiber
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C408.2	Analyze the Eye Pattern, Pulse broadening of optical fiber and the impact on BER.
C408.3	Estimate the Wireless Channel Characteristics.
C408.4	Analyze the performance of Wireless Communication System.
C408.5	Describe the intricacies in Microwave System design.
C408.6	Analyze the characteristics of Microwave components.

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	1	2	3	4	5	6	7	8	9	10	11	12
C408.1	3	3	3									
C408.2				3								
C408.3					3	3						
C408.4							3	3				
C408.5									3	3		
C408.6											3	3
C408	3	3	3	3	3	3	3	3	3	3	3	3

Course/Branch	:	B.E. / ECE	Subject Title	:	Digital Image Processing
Subject Code	:	EC 8093	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C409.1	Know and understand the basics and fundamentals of digital image processing, such as digitization, sampling, quantization, and 2D-transforms.
C409.2	Operate on images using the techniques of smoothing, sharpening and enhancement.
C409.3	Understand the restoration concepts and filtering techniques.

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C409.4	Learn the basics of segmentation, features extraction, compression and recognition methods for color models.
C409.5	Use various coding techniques for image compression.
C409.6	Analyze various image descriptors and features of image representation techniques.

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C409.1	3	3	2	2	1	-	-	-	-	-	-	1	3	-
C409.2	3	3	2	2	1	-	-	-	-	-	-	1	3	-
C409.3	3	3	2	2	1	-	-	-	-	-	-	1	3	-
C409.4	3	2	2	2	1	-	-	-	-	-	-	1	3	-
C409.5	3	2	2	2	1	-	-	-	-	-	2	1	3	-
C409.6	3	3	2	2	1	-	-	-	-	-	2	1	3	-
C409	3	3	2	2	1	-	-	-	-	-	2	1	3	-

Course/Branch	:	B.E. / ECE	Subject Title	:	Satellite Communication
Subject Code	:	EC 8094	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C410.1	Describe the basics of satellite orbits.
C410.2	Analyze the satellite orbits.
C410.3	Analyze the earth segment.

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C410.4	Analyze the satellite Link design.
C410.5	Design various satellite applications.
C410.6	Analyze the space segment.

MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C410.1	3	3	2	2	-	-	-	-	-	-	-	-	3	2
C410.2	3	3	2	2	-	1	-	-	-	-	-	-	3	2
C410.3	3	3	2	2	-	1	-	-	-	-	-	-	3	2
C410.4	3	2	2	2	3	-	-	-	-	-	-	-	3	2
C410.5	3	2	2	2	3	-	-	-	-	-	-	1	3	2
C410.6	3	3	2	2	-	-	-	-	-	-	-	-	3	2
C410	3	3	2	2	3	1	-	-	-	-	-	-	1	3

Course/Branch	:	B.E. / ECE	Subject Title	:	Project Work
Subject Code	:	EC 8811	Year/Semester	:	IV/VII

Course Outcomes:

Students must be able to

C411.1	Demonstrate profound technical knowledge of the project.
C411.2	Identify a real world problem, review literature and suggest its solution.
C411.3	Demonstrate solutions to complex engineering problems utilizing a systems approach
C411.4	Provide solutions to meet the specified needs of the society.
C411.5	Create a system and validate its conformance

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C411.6	Perform data analysis, interpret and provide valid conclusions.
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MAPPING OF COURSE OUTCOMES WITH THE PROGRAM OBJECTIVES:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C411.1	3	3	2	2	1	-	-	-	-	-	-	1	1	1
C411.2	3	3	2	2	1	1	1	1	-	-	1	1	1	-
C411.3	3	3	2	2	1	1	1	1	-	-	1	1	1	-
C411.4	3	2	2	2	1	-	-	1	-	-	-	1	1	-
C411.5	3	2	2	2	1	-	-	1	-	-	-	1	1	-
C411.6	3	3	2	2	1	-	-	-	-	-	-	1	1	-
C411	3	3	2	2	1									

C401	2	2	2	2	-	2	-	-	-	2	-	2
C402	2	2	2	2	-	2	-	-	-	2	2	2
C403	3	2	2	2	-	-	-	-	-	2	2	2
C404	-	-	-	-	-	2	-	3	2	2	2	2
C405	2	2	2	2	2	2	-	-	-	2	2	2
C406	3	2	2	2	2	2	-	-	-	2	2	2
C407	3	2	2	2	2	2	-	2	2	2	2	2
C408	3	3	2	2	2	2	-	-	2	3	2	3
C409	3	2	2	2	-	2	-	-	-	2	2	2
C410	2	2	2	2	-	-	-	-	-	2	2	2
C411	3	2	2	-	-	2	-	3	2	2	2	2