G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-25)

Course Outcome

Course Name: HSM301-Engineering Economics Finance & Costing

Year of Study: 2024-2025

HSM301.1	Define and explain economics, costing and financial concepts.
HSM301.2	Calculate present value, future value of single cash flow and annuities using appropriate formulas.
HSM301.3	Conduct cost estimation, including materials, labor, overheads, and other related costs.
HSM301.4	Identify sources of risk and uncertainty in engineering projects.
HSM301.5	Compare different economic evaluation methods (e.g., net present value, internal rate of return, payback period) to assess project feasibility.
HSM301.6	Evaluate investment proposals for personal financial management.

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
HSM301.1	3	1													
HSM301.2	2	3												3	
HSM301.3	3		3											2	
HSM301.4	3													1	
HSM301.5			3											1	
HSM301.6		3													

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-25)

Course Outcome

Course Name: ECE 302 Digital Signal Processing **Year of Study: 2024-2025**

ECE302.1	Classify CT & DT signals and systems
ECE302.2	Apply time domain analysis techniques to LTI systems.
ECE302.3	Analyze Signals using DFT and FFT algorithms.
ECE302.4	Design FIR and IIR filter.

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE302.1	2														
ECE302.2		2												1	
ECE302.3		2												2	
ECE302.4	1	2	3											3	

Course Name: ECE321 Lab-I: Digital Signal Processing **Year of Study: 2024-2025**

ECE321.1	Generate and analyze Discrete-Time Signals by using software tools MATLAB/SCILAB.
ECE321.2	Design and analyze IIR and FIR filters by using software tools MATLAB/SCILAB.

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE321.1	1	2			3			1	1			1		3	
ECE321.2	1	2			3			1	1			1		3	

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

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Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-2025)

Course Outcome

Course Name: ECE302 Embedded System & VLSI Design Year of Study: 2024-2025

ECE303.1	Describe embedded system, architecture and instruction set of 8051 microcontroller.(Understand)
ECE303.2	Develop various applications by interfacing various modules to 8051 (Apply)
ECE303.3	Explain and use of major syntactic elements of VHDL such as entity, architecture, common concurrent and common sequential statements. (Understand)
ECE303.4	Design different logic circuits in different types of modeling.(Apply)

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE303.1	1														
ECE303.2			1											2	
ECE303.3	1														
ECE303.4			1											2	

Course Name: ECE322Lab-II: Embedded System & VLSI DesignYear of Study: 2024-25

ECE322.1	Develop assembly language programs for microcontroller 8051 and its interfacing. (Apply)
ECE322.2	Use modern development tool to design complex digital circuits. (Apply)

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE222.1			1											2	
ECE222.2					1									2	

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-2025) Autonomous)

Course Outcome

Course Name: ECE304Data AnalysisYear of Study: 2024-2025

ECE304.1	Understand the basic concepts and principles of data analytics. (Comprehension)
ECE304.2	Apply data preprocessing techniques to clean and prepare data for analysis (Application)
ECE304.3	Perform statistical analysis and interpret the results. (Analysis/Evaluation)
ECE304.4	Implement and evaluate machine learning algorithms for data prediction and classification.(Synthesis)

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE304.1	1												2		
ECE304.2		1													1
ECE304.3			1												
ECE304.4				2											

Course Name: ECE323Lab-III: Data AnalysisYear of Study: 2024-2025

ECE323.1	Develop a strong foundation in data analytics techniques. (Synthesis)
ECE323.2	Enhance their problem-solving skills by addressing real-world engineering problems through data analytics approaches (Evaluation)

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE323.1					2								1		
ECE323.2										1			1		

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-2025)

Course Outcome

Course Name: ECE305 Operating SystemYear of Study: 2024-2025

ECE305.1	Identify the role of an operating system as system software.
ECE305.2	Explain use of given operating system tool.
ECE305.3	Execute Process commands to performed process management operations.
ECE305.4	Apply File Management Techniques

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE305.1	2												1		
ECE305.2		2											1		
ECE305.3			3										1		
ECE305.4			3										1		

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-2025)

Course Outcome

Course Name: ECE325Lab-V: Experienced Based Learning Year of Study: 2024-2025

ECE325.1	Demonstrate Practical Application (Concrete Experience).
ECE325.2	Reflect on Experiences (Reflective Observation).
ECE325.3	Develop Innovative Problem-Solving Skills (Abstract Conceptualization).
ECE325.4	Apply Knowledge in Real-World Settings (Active Experimentation).

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE325.1	2												1		
ECE325.2		2		3									1		
ECE325.3										2			1		
ECE325.4			3								2	3		2	3

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year ECE (Autonomous) (2024-2025)

Course Outcome

Course Name: ECE326- Lab-VI: Development of Skills (Computational) – MATLAB
Year of Study: 2024-2025 **Semester: V**

ECE326.1	Demonstrate an understanding of MATLAB's fundamental concepts and syntax, enabling them to write efficient and error-free MATLAB code.
ECE326.2	Apply MATLAB to solve engineering problems, perform data analysis, and create simulations relevant to Electronics and Computer Engineering.

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE326.1					3										2
ECE326.2					3										2

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-2025) Autonomous)

Course Outcome

Course Name: ECE902 Statistical foundations for Data ScienceYear of Study: 2024-2025

ECE902.1	Discuss the key terminology, concepts tools and techniques used for statistical analysis & explain the terminology of probability.
ECE902.2	Discuss basic ideas of linear Regression and principal component analysis.
ECE902.3	Describe various classification methods for data analysis.
ECE902.4	Apply various graph techniques for data analysis.

CO PO and PSO Mapping

CO	PO1	PO2	PO3	PSO2
CO1	2			1
CO2		1		1
CO3		1		1
CO4		1		1
Average	2	1		1
Mapping Strength	**2**	**1**		**1**

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

G.S.Mandal's

Maharashtra Institute of Technology, Aurangabad
Electronics and Computer Engineering Department

Third Year (2024-2025)

Course Outcome

Course Name: ECE902 Communication Protocols for IoT Year of Study: 2024-2025

ECE902.1	Comprehend the essentials of IoT and its applications(L2)
ECE902.2	Illustrate IoT reference architecture.(L2)
ECE902.3	Describe various layers in communication Protocols.(L2)
ECE902.4	Relate communication protocol in IoT(L3)

CO PO and PSO Mapping

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3
ECE902.1	1														
ECE902.2	1														
ECE902.3		1													
ECE902.4	1			1									1		

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)