M.Tech – Communication Engineering

Vision and Mission of the University

Vision

To be known globally for value-based education, research, creativity and innovation"

Mission

- Establish state-of-the-art facilities for world class education and research.
- Collaborate with industry and society to align the curriculum,
- Involve in societal outreach programs to identify concerns and provide sustainable ethical solutions.
- Encourage life-long learning and team-based problem solving through an enabling environment.

Vision and Mission of the Department

Vision

To be known globally as a premier department of Electronics and Communication Engineering for value-based education and interdisciplinary research for innovation.

Mission

M1: Create a strong foundation on Fundamentals of Electronics and Communication Engineering through Outcome Based Teaching Learning (OBTL) Process

M2: Establish state-of-the-art facilities for design and simulation.

M3: Provide opportunities to students to work on real world problems and develop sustainable ethical solutions.

M4: Involve the students in group activities, including those of professional bodies to develop leadership and communication skills.

Programme Outcomes (POs)

PO1: An ability to independently carry out research /investigation and development work to solve practical problems

PO2: An ability to write and present a substantial technical report/document

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PO3: Students should be able to demonstrate a degree of mastery over the area as per the specialization of the program. The mastery should be at a level higher than the requirements in the appropriate bachelor program

Po4 : An ability to function effectively as an individual or as a member or leader in a team

PO5 : An ability to keep abreast with state of art technologies through lifelong learning

Program Educational Objectives

PEO1: The Post Graduates will attain successful professional career by applying their Engineering skills in Communication Systems to the challenges in industry, academia or in the pursuit of other fields.

PEO2: The Post Graduates will engage in lifelong learning, adapt to evolving technology, work in multidisciplinary research to design innovative products and provide solutions and become entrepreneurs

PEO3: The Post Graduates will pursue doctoral research in reputed institute globally.

Programme Specific Outcomes (PSOs)

PSO1: Communication System Development: Apply the knowledge of communication networks and antenna-based applications.

PSO2: IOT System Development: Analyze and develop embedded and IOT based applications.

Sample Course Outcomes

Name of The Course	Advanced Digital Signal Processing			
Course Code	MCEN5018			
		L	T	P	C
		3	0	0	3

Course Objectives:

This course examines the fundamentals of detection and estimation for signal processing. It will help the students to implement new algorithms for signal processing applications in frequency, time and mixed domains.

Course Outcomes

CO1	Learn Multirate signal processing.
CO2	Design digital filters.
CO3	Demonstrate signal processing applications in frequency and time domains
CO4	Apply FFT and power estimation for real time applications
CO5	Explain DSP Processors and its application

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Text Book (s)

1. Steven W. Smith, " Digital Signal Processing: A Practical Guide for Engineers and Scientists", Elsevier, 2003.
2. John G. Proakis, "Digital Signal Processing Principles, Algorithms and Applications" , 4th edition , PHI 2007.

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1. Lawrence R. Rabiner, Bernard Gold, "Theory and Application of Digital Signal Processing", PHI 2001.

2. Roberto Cristi "Modern Digital Signal Processing", Thomson Brooks/Cole, 2004

Unit-1	Introduction to Modern Digital Signal Processing	8 hours
Introduction to Modern Digital Signal Processing: Signals, systems and signal processing (continuous & discrete an overview), time domain and frequency domain analysis of signals. Sampling and reconstruction of signals, Concepts of Two dimensional, Multi-rate and adaptive signal processing.	
Unit-2	Design of Filters	8 hours
Design of digital filters, moving average filters, adaptive filters and Filter banks.	
Unit-3	Fast Fourier Transform	8 hours
Discrete and fast Fourier transform algorithms, Power spectrum estimation	
Unit-4	Introduction to Digital signal Processors	8 hours
Introduction to Digital signal Processors: Fixed and Floating Point Processors, Complex numbers – fixed and floating point representation. Applications: Applications of Digital Signal Processing to Speech & Audio coding and processing	
Unit-5	Design and implementation example	8 hours
An IIR and FIR audio filters - Modelling in MATLAB - Analog measurement on DSP Systems, Fixed and floating Point Realization impacts.	

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GALGOTIAS UNIVERSITY

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

Department of Electrical, Electronics and Communication Engineering

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Vision and Mission of the Department

Vision

To be recognized globally as a premier department of Electrical, Electronics and Communication Engineering for value-based education, interdisciplinary research and innovation.

Mission

- To produce skilled professional in the field of Electrical and Electronics Engineering to meet the requirement of Industry 4.0.
- To setup Center-of-Excellence for design simulation and product development.
- To provide opportunities for students to work on real world problems and develop sustainable solutions.
- To collaborate with industry and professional bodies to design up-to-date curriculum as per the industry need.

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M.Tech – Communication Engineering

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