- **Department Name: Electronics and Telecommunication Engineering**

- **PG Program Name: M. Tech Electronics**

Vision and Mission :-

Vision :-

Promote excellence in the field of Electronics & Telecommunication Engineering and allied areas through quality education and research to provide valuable assets for industry and society.

Mission:-

- ➢ To provide quality education through need based curriculum, effective teaching learning process and state-of-art infrastructure.
- ➢ To inculcate research aptitude leading to patents and publications in refereed journals.
- ➢ To imbibe professional ethics, leadership skills, social, cultural & environmental awareness with a passion for lifelong learning.
- ➢ To strengthen relationships with industry, society, government bodies and alumni.

Sr. No.	Program Outcomes
1.	Demonstrate a degree of mastery over electronics engineering
2.	Independently carry out research/investigations and development work to solve practical problems of society and industry.
3.	Write and present a substantial technical report/document
4.	Adapt professional, ethical and moral responsibilities
5.	Use knowledge of Project Management and Finance to tackle administrative responsibilities.
6.	Explore ideas and engage in lifelong learning

Sr. No.	Semester	Course Code	Course Name	Course Outcome
1.	I	ECS1014	Advanced Communication Networks -	1. Outline advanced concepts in communication networking. 2. Design and develop protocols for communication networks. 3. Identify the mechanisms in quality of service in networking. 4. Optimize the network design.
2.		ECS1024	Advanced Digital Signal Processing -	1. Explain techniques available for implementation of digital signal processing system 2. Design and simulate working of given digital signal processing system 3. Evaluate performance of digital signal processing system 4. Interpret the performance of digital signal processing system 5. Write limitations of digital signal processing system designed with specific technique
3.		ECS1034	Wireless Sensor Network	1. Design wireless sensor network system for different applications under consideration 2. Understand the hardware details of different types of sensors and select right type of sensor for various applications. 3. Identify radio standards and communication protocols to be used for wireless sensor network based systems and application. 4. Use operating systems and programming languages for wireless sensor nodes 5. Handle special issues related to sensors like energy conservation and security challenges.
4.		ECS1084	Mechatronics Based System	1. Explain elements required to develop mechatronics system. 2. Design mechatronics based system for specified application 3. CO3: Describe applications of mechatronics systems

Sr. No.	Semester	Course Code	Course Name	Course Outcome
5.		ECS1094	Research Methodology and IPR	1. Formulate a research problem. 2. Analyze research related information 3. Prepare and present research proposal/paper by following research ethics 4. Make effective use of computers and computing tools to search information, analyze information and prepare report. 5. Describe nature and processes involved in development of intellectual property rights
6.		ECS1104	Advanced Communication Networks Lab	1. Identify the different types of network devices, their functions, required tools and techniques. 2. Build and analyze the skills of sub-netting and routing mechanisms. 3. Evaluate the performance of designed advanced communication networks. 4. Present and write laboratory reports in desired format in grammatically correct language.
7.		ECS1114	Advanced Digital Signal Processing Lab	1. Propose solution for given signal processing task 2. Write MATLAB program to simulate the working of given digital signal processing system 3. Analyze performance of digital signal processing system 4. Write proper conclusion 5. Write laboratory report in desired format in grammatically correct language
8.	II	ECS2014	Antenna and Radiating Systems	1. Explain different types of antennas. 2. Solve problems based on antenna parameters, structures and array antennas 3. Analyze different structures involved in antennas the effect of different parameters on functioning of antenna.

Sr. No.	Semester	Course Code	Course Name	Course Outcome
				4. Design antennas and antenna arrays for various desired radiation pattern characteristics.
9.		ECS2044	Internet Of Things	1. Identify IOT technology in certain scenarios 2. Describe technology which are available for IOT solution 3. Apply technology for IOT applications
10.		ECS2094	Antenna and Radiating Systems Lab	1. Calculate antenna parameters. 2. Simulate different types of antennas in Electromagnetic Field solver. 3. Compare the performance of different types of antennas. 4. Write necessary reports
11.		ECS2064	Soft Computing	1. Identify and describe soft computing techniques and their roles in building intelligent machines 2. Apply fuzzy logic and reasoning to handle uncertainty and solve engineering problems 3. Apply genetic algorithms to combinatorial optimization problems 4. Apply neural networks to pattern classification and regression problems 5. Effectively use existing software tools to solve real problems using a soft computing approach
12.		SHP515	Numerical Computation Techniques	1. Estimate the error 2. Apply the relevant numerical method for interpolating the polynomial. 3. Develop the equation of the curve to fit for given data. 4. Estimate numerically the solution of given algebraic equation. 5. Use the relevant method for solving the simultaneous linear equations and compute the Eigen values. 6. Construct the fuzzy set for given linguistic variable and apply fuzzy logic.

Sr. No.	Semester	Course Code	Course Name	Course Outcome
13.		ECS2104	Wireless and Mobile Communication Lab	1. Illustrate cellular concepts, GSM and CDMA networks. 2. Outline GSM handset by experimentation and fault insertion techniques. 3. Interpret CDMA concept using DSSS. 4. Develop concepts of software radio in real time environment.
14.		ECS2024	Wireless and Mobile Communication	1. Design appropriate mobile communication systems. 2. Apply frequency-reuse concept in mobile communications, and to analyze its effects on interference, system capacity, handoff techniques 3. Distinguish various multiple-access techniques for mobile communications 4. Analyze and design CDMA system functioning with knowledge of forward and reverse channel details, advantages and disadvantages of using the technology 5. Discuss upcoming technologies like 3g, 4g etc.
15.		SHP551	Technical Communication	1. Acquire skills required for good oral and written communication 2. Demonstrate improved writing and reading skills 3. Ensure the good quality of oral and written communication
16.		ECS52114	Mini project	1. Select title of mini-project and formulate its objectives correctly 2. Develop, simulate and implement the system by complying with desired technical specifications 3. Analyze and synthesize obtained results in theoretical and practical context 4. Present findings in logical order 5. Write a report to document his/her findings
17.	III	ECS3013	Field Training	1. Apply engineering knowledge learned during the program

Sr. No.	Semester	Course Code	Course Name	Course Outcome
				2. Apply his/her technical skills to industrial problem 3. Propose creative and innovative solution to the given problem 4. Work in multi-disciplinary setting 5. Show concern for society, environment and other social concerns 6. Complete given tasks according to the industrial needs with full integrity and responsibility
18.		ECS3023	Dissertation Phase-I	1. Identify research opportunities in his/her domain or multidisciplinary domains 2. Formulate the problem statement and its objectives correctly 3. Apply the principles of project management during development of the project 4. Present synopsis in logical order 5. Write synopsis of the proposed system
19.		ECS3033/ ECS3043	Dissertation Phase-II	1. Identify research opportunities in his/her domain or multidisciplinary domains. 2. Formulate the problem statement and its objectives correctly 3. Develop, simulate and implement the system by complying with desired technical specifications 4. Analyze and synthesize obtained results in theoretical and practical context 5. Present report in logical order 6. Write report of the system implementation 7. Apply the principles of project management during development of the project
20.	IV	EC4013	Dissertation Phase-III	1. Identify research opportunities in his/her domain or multidisciplinary domains.

Sr. No.	Semester	Course Code	Course Name	Course Outcome
				2. Formulate the problem statement and its objectives correctly 3. Develop, simulate and implement the system by complying with desired technical specifications 4. Analyze and synthesize obtained results in theoretical and practical context 5. Present report in logical order 6. Write report of the system implementation 7. Apply the principles of project management during development of the project
21.		ECS4023 ECS4033	Dissertation Phase-IV	1. Identify research opportunities in his/her domain or multidisciplinary domains. 2. Formulate the problem statement and its objectives correctly 3. Develop, simulate and implement the system by complying with desired technical specifications 4. Analyze and synthesize obtained results in theoretical and practical context 5. Present report in logical order 6. Write report of the system implementation 7. Apply the principles of project management during development of the project