

Subject name	Description
Modern Antennas	This course gives an insight on radiating systems and modern antennas used in various applications both for domestic and commercial applications. It is very useful from industry point of view
Speech Processing	The students will get familiar with basic characteristics of speech signal in relation to production and hearing of speech by humans. They will understand basic algorithms of speech analysis common to many applications. They will be given an overview of applications (recognition, synthesis, coding) and be informed about practical aspects of speech algorithms implementation.
Soft Computing	This course enables the students to be industry ready for the software applications of Neuro– Fuzzy, Optimization techniques, Artificial Intelligence, Knowledge Representation – Reasoning, Issues and Acquisition, Neuro-Fuzzy Modeling and the applications of Computational Intelligence.
MEMS and Its Applications	Students will be able to understand basics of micro-fabrication,, develop models and simulate electrostatic and electromagnetic sensors and actuators, understand material properties important for MEMS system performance, analyze dynamics of resonant micromechanical structures, understand the design process and validation for MEMS devices and systems.
Mechatronics	This subject deals with electronics’ circuits used in mechanical systems e.g. automobiles, industry and other related mechanical engineering systems. This percentage of electronic components and systems is steadily increasing. This course is essential for employment of electronic engineers in mechanical engineering industry.
Nano-Technology	This course deals with engineering at the molecular and atomic level. It finds application in hazardous areas and in those places which can’t be accessed easily by humans like in surgery inside the body etc. A course in nano-technology prepares the students in diverse areas like atomic energy, hospitals, radiation zones etc.
Satellite Communication	Involvement of satellites in communication is increasing steadily be in telephones, satellite TV or inter-continental voice and video circuits. Thorough study of this course provides a platform of employment in ISRO, various telecommunication and TV companies and other major global tech industries working in telecommunications.

Electronic System Design	The electronic system design syllabus gives the immense power to regulate the power of integrated power regulator chips. The analog hardware and OP-AMP design can be easily understood in practical applications. The measurement of temperature, light level and other parameters delivers the use of sensor technology.
Advanced Digital Signal Processing	This course provides knowledge of advanced signal processing concepts and techniques associated with the analyzing and synthesizing both continuous-time and discrete time systems. It is a helpful course to gain an understanding of the significance of digital signal processing (DSP) in the fields of computing, telecommunications and other areas of Computer Science and Electronic/Electrical Engineering.
Reliability	This course enables to apply learned concepts to improving the maintenance, the maintainability, hazard risk and the safety of a plant. It also provides a sense to develop warranty plans for different products and enables the students to carry out a failure mode effect and criticality analysis.
Pulse Wave Shaping And Switching	This course focuses on identifying the operational principles and concepts of power amplifiers and devices converters, designing of switch-mode DC & AC power supplies and the suitable converter for different applications. Thus the students become capable to demonstrate a knowledge and understanding of system-on-chip design methodologies and apply them to the top-down design of electronic systems.
Disaster Management	This course will introduce students to the vocabulary and core components of Emergency Management. The importance of this growing field is changing rapidly as a result of an increase in frequency, complexity, and severity of man-made, natural, and technological disasters.
Industrial Instrumentation	This course will introduce students with the basic knowledge of Pressure, Temperature, flow, level, density and viscosity measurements. It also deals the construction and working of measuring instruments. These topics are widely used in industry and would make the students industry ready.
Adhoc Networks	This course covers major aspects of ad hoc and sensor networking, from design through performance issues to application requirements. It starts with the design issues and challenges associated with implementations of ad hoc and sensor network applications. This includes mobility, disconnections, and battery power consumption. The course provides a detailed treatment of proactive, reactive, and hybrid routing protocols in mobile wireless networks. It also covers the IEEE 802.11 Wireless LAN and Bluetooth standards and discusses their characteristics and operations.

Digital System Design	This course enables students to design electronic systems using various electronic devices including microprocessors and microcontrollers. This would train the students to be industry ready for employment in electronic systems designs whether for home entertainment systems or aircraft, space and telecommunication applications.
Electromechanical Energy Conversion	It is a basic course which is useful to all engineers of any branch be it electrical, mechanical, electronics, computers, civil etc. In this, students learn about electric motors (AC and DC) and transformers. These devices are used in all walks of life even in home applications. No engineering is complete without a basic knowledge of these. These are also extensively used in industry.
Computational Techniques	This course aims to develop a practical approach to mathematical problem solving. The course will introduce to many commonly used tools and techniques in numerical work. Due emphasis will be placed on converting algorithms and techniques to working computer codes. Carefully designed examples will help in understanding the nuances of the numerical techniques and computer applications of the same.
Modern Digital Communication Techniques	The course will delve into the design principles of transmitter and receiver so as to establish a reliable communication link. This course aims at enabling the participants to establish unambiguous mathematical statements describing every step of transmitting and receiving a signal through a communication link. It aims at exposing the details of noise, its modeling and its effect on communication systems design. It will cover methods of performance analysis of digital communication systems.