

CERTIFICATE COURSE

Fundamentals of Wireless and Mobile Communication

Starting On - 23-10-2020

Department of Bachelor of Science in Electronics

No registration fee for students from MES College Erumely



MES COLLEGE ERUMELY

(Approved by Govt. of Kerala & Affiliated to Mahatma Gandhi University)

A Minority Institution Certified by National Minority Education Commission

Directorate of Human Resource Development Council (HRDC)

Director : Rejoola O.M. - 8289 882 175

MES COLLEGE ERUMELY
DEPARTMENT OF ELECTRONICS
SYLLABUS OF ADD-ON COURSE

FUNDAMENTALS OF WIRELESS AND MOBILE COMMUNICATION
(34 Hours)

Module I Introduction to Wireless communication	(5 Hours)
Evolution of Mobile Radio Communication, Mobile Radio System around the world, Examples of Wireless Communication System, Paging System, Cordless Telephone system, Cellular Telephone System, How a cellular telephone one call made.	
Module II Modern Wireless Communication System	(8 Hours)
2G cellular network, 2.5 G Wireless networks, TDMA, HSCSD for GSM, GPRS for GSM and IS-136, EDGE for GSM and IS-136, 3G Wireless networks, CDMA (UMTS), cdma2000, TD SCDMA, Wireless Local Loop (WLL), Wireless Local Area Networks (WLANs), Bluetooth and Personal Area Networks (PANs), Introduction to 4G,	
Module III The Cellular Concept	(8 Hours)
Introduction, Frequency reuse, Channel assignment strategies, Handoff strategies, Prioritising handoffs and Practical handoffs, Interference and system capacity, Co-channel interference, Channel planning, Adjacent channel interference, Power Control for reducing interference., Improving Coverage and Capacity in cellular system, Cell splitting, Sectoring, Repeaters, Microcell zone concept.	
Module IV Multiple Access Techniques for Wireless	(8 Hours)
Introduction to Multiple Access, Frequency Division Multiple Access, Time Division Multiple Access, Spread Spectrum Multiple Access, Frequency Hopping Multiple Access, Code Division Multiple Access, Space Division Multiple Access, Packet Radio and Protocols, Pure ALOHA, Slotted Aloha, Carrier Sense Multiple Access.	
Module V Emerging Technologies an GSM	(5 Hours)
Bluetooth, RFID, Wireless Broadband, Mobile IP, Introduction to GSM, GSM architecture, Call routing, Frequency allocation, Introduction to GPRS, GPRS Architecture.	

Reference Books

- Wireless Communication Principles and Practice by Theodore S. Rappaport
- Mobile Computing by Asoke K. Talukder

About the Course

To expose the students to understand mobile radio communication principles and to study the recent trends adopted in cellular systems and wireless standards ,to introduce the concepts ad techniques associated with wireless cellular communication system and to keep updated on latest wireless technologies and trends in the communication field.

Who can apply : **Students Studying in BSc Electronics Programme**

The programme registration will be open from October - 15th
Classes Strated From -23-10-2020

Certificate will be issued on successful completion of the course

Total Hours : 30