EC 323 Introduction to Communication Systems

C O U R S E I N F O R M A T I O N

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Lab.	
BA 224	3	5	2	2	2	3

C O U R S E A I M

To get the student familiar with analog and digital communications techniques and their applications. To have an idea about domestic wire and wireless communication technologies and industrial communication technology

- Fundamentals of Analog Communications
- Fundamentals of Pulse Code Modulation
- Fundamentals of Digital modulation

C O U R S E W E E K L Y C O N T E N T S

1	Main concepts, components and types of communication systems
2	Signal classifications and Fourier representation
3	Analog modulation and related application examples (AM & FM)
4	Pulse modulation and related application examples (PM, PAM & PWM)
5	Sampling theorem and concept of digital communication
6	Pulse code and shifting modulation (PCM & PSK)
7	Chanel models and communication protocols + Midterm Exam
8	"OSI" model and common communication devices within physical layer
9	Overview of networking topologies
10	Summary of domestic wire communication technology (Serial --RS & USB)
11	Summary of domestic wireless communication technology (Wi-Fi & Bluetooth)
12	Summary of domestic wireless communication technology (Zig-Bee)
13	Overview of industrial communications hierarchy and features
14	Industrial communication technology (Industrial Ethernet & Profibus)
15	Application case studies

S T U D E N T G R A D I N G & A S S E S S M E N T

Weeks	Exams		Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20	Midterm	←	10 MARKS To be freely distributed among possible assessments			→	30
8 to 12	←			20 MARKS			→	20
13 to 15	←			10 MARKS			→	10
16 or 17	40	Final						40
Total	Exams		Assign.	Quizzes	Reports	Present.	Lab.	100

R E F E R E N C E S

Textbook P. Lathi, “Modern Digital and Analog Communication Systems”

Other