

EC553 Media and Entertainment Engineering**COURSE INFORMATION**

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
EC421	4	8	2	2	2	3

COURSE AIM

Stereophonic broadcasting systems - TV scanning and broadcasting - Detailed block diagram of a TV transmitter and receiver - Color TV fundamentals - NTSC, PAL, and SECAM systems - Digital TV - HDTV and Satellite TV - Audio recording analog and digital - Compact disc and CD player - Reflection and ray tracing theory - Acoustical treatment and studio design

COURSE WEEKLY CONTENTS

- 1 Introduction
- 2 AM and FM Transmitters: RF Transmission (low level & high level modulation)
AM/FM
- 3 AM and FM reception: Broadcasting AM receiver, Broadcasting FM receiver.
error calculations in presence of AWGN – The Q function and its relation to complementary error function.
- 4 Stereophonic broadcasting systems: Stereophonic Transmitter and receiver, Television broadcasting (introduction and block diagram).
- 5 Detailed block diagram of a TV transmitter and receiver
- 6 BPSK, BFSK generation and detection
- 7 Color TV fundamentals: Color TV fundamentals.
- 8 NTSC, PAL, and SECAM systems: PAL system, SECAM system, NTSC color system.
- 9 Digital TV.
- 10 Satellite TV
- 11 Audio recording analog and digital.
- 12 Video Tape recording.
- 13 Non-Coherent Detection. Rayleigh and Rice distributions. Optimum NC detection. NC Matched filter.
- 14 Reflection and ray tracing theory: Reflection in a room, Ray tracing and image source theory, Reverberation theory.
- 15 Acoustical treatment and studio design: Acoustical treatment for concert halls and studio design.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	5	5				30
8 to 12	10	5	5			→	20
13 to 15	←		10	MARKS		→	10
16 or 17	40 Final						40
Total	Exams	Assign.	Quizzes	Reports	Present.	Lab.	100

REFERENCES

- Textbook** • A. Luther & A. Inglis, Video Engineering, Mc. Graw Hill, 2002
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