

EC442 Electromagnetic Wave Propagation

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
EC341	5	10	2	2	0	3

COURSE AIM

The course aims at introducing the student to the basic concepts of medias , snells law and fundamental of antennas.

COURSE WEEKLY CONTENTS

- 1 Wave equation
- 2 Uniform plan waves
- 3 Wave propagation in free space
- 4 perfect dielectric
- 5 lossy and good conductors
- 6 skin effect- surface impedance
- 7 7th week evaluation.
- 8 Normal incidence
- 9 reflection coefficient and standing wave pattern
- 10 Input impedance
- 11 oblique incidence reflection coefficients for horizontal and parallel polarization Brewster angle- and types of polarization.
- 12 12th week evaluation
- 13 Fundamental parameters of antennas.
- 14 Linear wire antenna (infinitesimal- small- finite length & half-wavelength dipole).
- 15 Ground wave propagation. Troposphere wave propagation. Ionosphere wave propagation.

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
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

REFERENCES

Textbook Hayat book 4th edition

Other