

EC526 Mobile Communications.**COURSE INFORMATION**

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
EC422 -	5	10	2	2	0	3

COURSE AIM

The course is aimed at providing the fundamentals of mobile and cellular communications starting from an overview over the different mobile generations. The system design, cell capacity and blocking probability are considered. The problem of the mobile communication channel and the path loss calculation are given. The system structure and the function of each element are described. Multiple Access Techniques- channel coding in mobile communication Frequency Reuse – cell cluster concept – co channel and adjacent channel interference – cell blocking – cell splitting and delay at the cell site.

COURSE WEEKLY CONTENTS

- 1 Difference between conventional mobile and cellular mobile
- 2 Channel trunkings needs and blocking probability
- 3 Overview on different cellular generations
- 4 Cellular radio design principles
- 5 Concept of frequency reuse/cellular block diagram
- 6 Co channel interference/adjacent channel interference
- 7 7th week assesment + Midterm Exam
- 8 Multipath propagation and mobile communication channel problems
- 9 Speech coding in GSM
- 10 Channel coding and interleaving in GSM
- 11 GSM mobile station block diagram
- 12 12th week exam
- 13 Control channels in GSM
- 14 Location updating
- 15 Security management

STUDENT GRADING & ASSESSMENT

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 • William C.Y. Lee, "Mobile Communication Design Fundamentals"
