



University of Nicosia, Cyprus

Course Code ECE-552	Course Title Digital Communications	ECTS Credits 8
Department Engineering	Semester Fall or Spring	Prerequisites ECE-332, ECE-350
Type of Course Required	Field Engineering	Language of Instruction English
Level of Course 2 st Cycle	Year of Study 1 st	Lecturer(s) Dr Ioannis Kyriakides
Mode of Delivery Face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

- explain digital modulation for digital transmission of a message
- explain the concept of digital amplitude and angle modulation
- explain pulse shaping
- explain channel estimation and tracking
- identify receiver performance

Learning Outcomes:

After completion of the course students are expected to be able to:

- represent signals using digital modulation
- identify linear and non-linear, analog and digital, amplitude and angle modulation methods
- apply amplitude and angle digital modulation methods
- explain the basics of pulse shaping
- explain the basics of channel estimation and tracking
- explain the basics of receiver performance in terms of bit error rate

Course Contents:

- Characterization of signal and systems
- Digital Modulation
- Amplitude modulation
- Angle modulation
- Channel estimation
- Receiver performance – Bit error rate

Learning Activities and Teaching Methods:

Lectures, in-class assignments.

Assessment Methods:

Homework, in-class assignments, projects, exams, final exam.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Simon Haykin, Michael Moher	Modern Wireless Communications	Prentice Hall	2005	0130224727

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
John G. Proakis, Masoud Salehi	Digital Communications	McGraw Hill	2007	0072957166
John G. Proakis	Communication Systems Engineering	Prentice Hall	2003	0130617938