



Course Syllabus

Course Code ECE-452	Course Title Digital Communications	ECTS Credits 6
Prerequisites ECE-332, ECE-350	Department Engineering	Semester Spring
Type of Course Required	Field Engineering	Language of Instruction English
Level of Course 1 st Cycle	Lecturer(s) Dr Ioannis Kyriakides	Year of Study 3 rd
Mode of Delivery Face-to-Face	Work Placement N/A	Corequisites None

Course Objectives:

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 Content:

- 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 examples, exercises, project

Assessment Methods:

Exams, final examination.

Required Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Modern Wireless Communications	Simon Haykin, Michael Moher	Prentice Hall	2005	0130224727

Recommended Textbooks / Readings:

Title	Author(s)	Publisher	Year	ISBN
Analogue and Digital Communication Techniques Ebsco Host	Smillie, Grahame	Oxford	1999	9780080527147
Digital Communications	John G. Proakis, Masoud Salehi	McGraw Hill	2007	0072957166
Communication Systems Engineering	John G. Proakis	Prentice Hall	2003	0130617938