

**ITT Technical Institute**

**ET456T**

**Digital Communication Systems II**

**Onsite Course**

**SYLLABUS**

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**Credit hours:** 4

**Contact/Instructional hours:** 60 (36 Theory Hours, 24 Lab Hours)

**Prerequisite(s) and/or Corequisite(s):**

Prerequisites: ET455T Digital Communication Systems I

**Course Description:**

A continuation of Digital Communication Systems I, emphasizing more advanced concepts such as multiple access, spread spectrum and synchronization methods.





Curriculum is designed to promote a variety of teaching strategies that support the outcomes described in the course objectives and that foster higher cognitive skills. Delivery makes use of various media and delivery tools in the classrooms.

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## **Student Textbook and Materials**

Text: Tomasi, Wayne. Advanced Electronic Communications Systems. 6<sup>th</sup> ed., Englewood Cliffs, N.J.: Prentice-Hall, 2004. (used in previous course: ET455)

Text: Digital Communication Systems, Custom 1<sup>st</sup> ed., Boston: MA, Pearson Custom, 2005.

Lab Manual: Tavaholi, Mohamad. Revised Digital Communication II Laboratory Manual, Custom 2<sup>nd</sup> ed., Boston: MA, Pearson Custom, 2010.

## Course Outline

Unit	Topic (Lecture Period)	Chapters	Lab and Other Coverage
1	Microwave Radio Communications I	Tomasi, 13	Lab Exercise 1 Homework Exercises
2	Microwave Radio Communications II	Tomasi, 13	Lab Exercise 2 Homework Exercises
3	Microwave Radio System Gain Exam 1 (Units 1-3)	Tomasi, 13	Lab Exercise 3 Homework Exercises
4	Satellite Communications I	Tomasi, 14	Lab Exercises 4, 5 Homework Exercises
5	Satellite Communications II	Tomasi, 14	Lab Exercise 6 Homework Exercises
6	Multiple Access Techniques Exam 2 (Units 4-6)	Tomasi, 15	Lab Exercises 7, 8, 9 Homework Exercises
7	Synchronization Techniques I	DCS, 1	Lab Exercises 10, 11 Homework Exercises
8	Synchronization Techniques II Exam 3 (Units 7-8)	DCS, 2	Lab Exercise 12 Homework Exercises
9	Spread Spectrum Techniques I	DCS, 3	Lab Exercises 13, 14, 15, 16 Homework Exercises
10	Spread Spectrum Techniques II	DCS, 4	Lab Exercises 17, 18 Homework Exercises
11	Review and Final Examination	The final examination will be based on the content covered in Units 1 - 10.	
NOTE: DCS = Digital Communication Systems text.			

## Evaluation Criteria and Grade Weights

■ Homework	25%
■ Unit Exams (3)	30%
■ Lab exercises	30%
■ Final exam	15%

Final grades will be calculated from the percentages earned in class as follows:

A	90 - 100%	4.0
B+	85 - 89%	3.5
B	80 - 84%	3.0
C+	75 - 79%	2.5
C	70 - 74%	2.0
D+	65 - 69%	1.5
D	60 - 64%	1.0
F	<60%	0.0