



# Philadelphia University

Faculty of Engineering - Department of Communications and  
Electronics Engineering

## Course Information

**Title:** Transmission Communication Systems(0650527)

**Prerequisite:** Digital Communications

**Credit Hours:** 3 credit hours (16 weeks per semester, approximately 44 contact hours)

**Textbook:** "Electronics communications System: Fundamental through Advanced ",  
W.Tomasi, 5<sup>th</sup>edition, Prentice Hall, 2004.

" Advanced Electronics Communications System ", W.Tomasi, Prentice Hall  
, Sixth edition,2004.

**References:** "Telecommunications systems and technology", Khader, Michael Barnes,  
William, Prentice Hall, 2000

**Catalog  
Description:**

The course is a elective for Communication and Electronics engineering and a requirement for Electrical Engineering students. It introduces the principles of communications systems, how RF wave propagate, Antenna theory and patterns for different Antennas, Basic structures for microwave systems. It also discusses basic Satellite systems and access schemes used for satellite communications. It discusses basic multiplexing and multiple access schemes. It also introduces basic telephony systems, wireless systems and mobile networks, in addition to different internet access schemes.

## Course Topics

Week	Topic
1,2	Introduction to Communication Systems & transmission media
3,4,5	Propagation of RF waves
6,7	The Basics of Antennas
8,9	Microwave Communication Systems
10,11	Satellite Communication Systems and access methods
12,13	Multiplexing Techniques
14,15	Telephony and Internet Networks
16	Review, and final exam

## Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should be able to:

1.	Understand fundamental knowledge related to analog and digital modulation and basic architecture of data networks, satellite networks and, telephony and wireless networks	[e, j]
2.	Applying the fundamental concepts to design basic systems and understand their components	[c, e]
3.	Understand the difference between multiple access schemes and different multiplexing techniques	[e]
4.	Gain Knowledge of basic system architecture and operations	[j]

### Assessment Instruments:

Evaluation of students' performance (final grade) will be based on the following categories:

**Exams:** Two written exams will be given. Each will cover about 3-weeks of lectures

**Quizzes:** 10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).

**Homework:** Problem sets will be given to students. Homework should be solved individually and submitted before the due date.

Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive zero mark for that homework

**Participation:** Questions will be asked during lecture and the student is assessed based on his/her response

**Final Exam:** The final exam will cover all the class material.

### Grading policy:

First Exam	20%
Second Exam	20%
Homework	
Quizzes and participation	20%
Final Exam	40%
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Total:	100%

### Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.