



# Philadelphia University

Faculty of Engineering - Department of Communications and  
Electronics Engineering

## Course Information

**Title:** Communication Circuits (0650526)

**Prerequisite:** Analog Communications – (0650420)

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

**Textbook:** "Electronics Communications Techniques", By Paul H. Young, Prentice Hall, 5<sup>th</sup> Edition, 2004.

"Communication systems" , Simon Haykin, 5<sup>th</sup> edition, 2009.

"Radio frequency and microwave communication circuits, analysis and design", Devendra K. Misra, 2<sup>nd</sup> edition, 2004.

**References:** "Telecommunication Circuits and Technology ", Andrew Leven, Academic Press 1<sup>st</sup> edition, 2000,

"Introduction to communication systems", G. Sremler, 3<sup>rd</sup> edition, 1990.

"Modern Electronic Communication", G M. Miller& J S. Beasley, 9<sup>th</sup> edition, 2007.

**Catalog Description:** This course aims to provide students with all information about Radio Frequency Amplifier and Oscillators. Modulation & AM Modulation Systems. AM Transmitter Circuit. AM Receiver Circuit. Frequency Modulations, FM transmitter Circuit, FM Receiver Circuit. PLL in Communication Application.

## Course Topics

Week	Topic
1, 2, 3	Radio Frequency Amplifiers
4, 5	Oscillators
6, 7	AM Transmitter Circuits
8, 9	AM Receiver Circuits
10, 11	FM Transmitter Circuits
12, 13	FM Receiver Circuits
14, 15	Phased Locked Loop (PLL)
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 the principles behind communication circuits, including RF circuits.	[e]
2.	Analyze and identify AM and FM transmitters and receivers.	[e, c]
3.	Perform circuit analysis on communication circuits	[e]
4.	Design basic communications blocks such as amplifiers, oscillators, mixers, and detectors.	[c]

### 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 4-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.

February, 2017