



Philadelphia University
Faculty of Engineering
Department of Communications & Electronics
First semester, 2009/2010

Course Syllabus

Course Title: Communication Circuits	Course code: 650531
Course Level: 5th	Course prerequisite (s) and/or corequisite (s): Analog Communications and Electronics 2
Lecture Time: 9:45-11:15	Credit hours: 3

Academic Staff
Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Saleh Saraireh	Assistant Prof.	811	10:10-11:10 S,T,&T	Saleh_53@yahoo.com

Course module description:

This course covers the following topics:
Radio Frequency Amplifiers.
Oscillator.
Modulation and Amplitude Modulation Systems.
AM Transmitter Circuits.
AM Receiver Circuits.
Frequency Modulation.
FM Transmitter Circuits
FM Receiver Circuits.
Phase Locked Loop (PLL).

Course module objectives:

The main objectives of this course are:

- To understand the principles behind communication circuits, including RF circuits. The emphasis is on fundamentals, illustrate through discrete-component design, although some consideration is given to integrated circuit techniques.
- Form a proper background for a more advanced graduate class in RF IC design.

Assessment instruments

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
First examination	20%
Second examination	20%
Final examination: 50 marks	50%
Reports, research projects, Quizzes, Home works, Projects	10%
Total	100%

** Make-up exams will be offered for valid reasons only with consent of the Dean. Make-up exams may be different from regular exams in content*

Documentation and Academic Honesty

Submit your home work covered with a sheet containing your name, number, course title and number, and type and number of the home work (e.g. tutorial, assignment, and project).

Any completed homework must be handed in to my office (room 821) by 13:00 on the due date. After the deadline “zero” will be awarded. You must keep a duplicate copy of your work because it may be needed while the original is being marked.

You should hand in with your assignments:

- 1- A printed listing of your test programs (if any).
- 2- A brief report to explain your findings.
- 3- Your solution of questions.

For the research report, you are required to write a report similar to a research paper. It should include:

- **Abstract:** It describes the main synopsis of your paper.
- **Introduction:** It provides background information necessary to understand the research and getting readers interested in your subject. The introduction is where you put your problem in context and is likely where the bulk of your sources will appear.
- **Methods (Algorithms and Implementation):** Describe your methods here. Summarize the algorithms generally, highlight features relevant to your project, and refer readers to your references for further details.
- **Results and Discussion (Benchmarking and Analysis):** This section is the most important part of your paper. It is here that you demonstrate the work you have accomplished on this project and explain its significance. The quality of your analysis will impact your final grade more than any other component on the paper. You should therefore plan to spend the bulk of your project time not just gathering data, but determining what it ultimately means and deciding how best to showcase these findings.
- **Conclusion:** The conclusion should give your reader the points to “take home” from your paper. It should state clearly what your results demonstrate about the

problem you were tackling in the paper. It should also generalize your findings, putting them into a useful context that can be built upon. All generalizations should be supported by your data, however; the discussion should prove these points, so that when the reader gets to the conclusion, the statements are logical and seem self-evident.

- **Bibliography:** Refer to any reference that you used in your assignment. Citations in the body of the paper should refer to a bibliography at the end of the paper.

- **Protection by Copyright**

1. Coursework, laboratory exercises, reports, and essays submitted for assessment must be your own work, unless in the case of group projects a joint effort is expected and is indicated as such.
2. Use of quotations or data from the work of others is entirely acceptable, and is often very valuable provided that the source of the quotation or data is given. Failure to provide a source or put quotation marks around material that is taken from elsewhere gives the appearance that the comments are ostensibly your own. When quoting word-for-word from the work of another person quotation marks or indenting (setting the quotation in from the margin) must be used and the source of the quoted material must be acknowledged.
3. Sources of quotations used should be listed in full in a bibliography at the end of your piece of work.

- **Avoiding Plagiarism.**

1. Unacknowledged direct copying from the work of another person, or the close paraphrasing of somebody else's work, is called plagiarism and is a serious offence, equated with cheating in examinations. This applies to copying both from other students' work and from published sources such as books, reports or journal articles.
2. Paraphrasing, when the original statement is still identifiable and has no acknowledgement, is plagiarism. A close paraphrase of another person's work must have an acknowledgement to the source. It is not acceptable for you to put together unacknowledged passages from the same or from different sources linking these together with a few words or sentences of your own and changing a few words from the original text: this is regarded as over-dependence on other sources, which is a form of plagiarism.
3. Direct quotations from an earlier piece of your own work, if not attributed, suggest that your work is original, when in fact it is not. The direct copying of one's own writings qualifies as plagiarism if the fact that the work has been or is to be presented elsewhere is not acknowledged.
4. Plagiarism is a serious offence and will always result in imposition of a penalty. In deciding upon the penalty the Department will take into account factors such as the year of study, the extent and proportion of the work that has been plagiarized, and the apparent intent of the student. The penalties that can be imposed range from a minimum of a zero mark for the work (without allowing resubmission) through caution to disciplinary measures (such as suspension or expulsion).

Course/ academic calendar

week	Basic and support material to be covered	Homework/reports and their due dates
(1)	Radio Frequency Amplifier	
(2)	Radio Frequency Amplifier	H.W. 1
(3)	Oscillators	H.W. 2
(4)	Modulation and Amplitude Modulation System	
(5)	Modulation and Amplitude Modulation System	H.W. 3
(6) First examination	AM Transmitter Circuits	
(7)	AM Transmitter Circuits	H.W. 4
(8)	AM Receiver Circuits	
(9)	AM Receiver Circuits	H.W. 5
(10)	Frequency Modulation	
(11)	FM Transmitter Circuits	
(12) Second examination	FM Transmitter Circuits	H.W. 6
(13)	FM Receiver Circuits	
(14)	FM Receiver Circuits	H.W. 7
(15)	Phase Locked Loop	
(16) Final Examination	Phase Locked Loop	H.W. 8

Expected workload:

On average students need to spend 2 hours of study and preparation for each 50-minute lecture/tutorial.

Attendance policy:

Absence from lectures 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.

Module references

Books

1. Streamler. "Introduction to Communication Systems", Addison Wesley.
2. K. Hess. "Communication Circuits, Analysis and Design", Addison Wesley 1994.
3. Andrew Leven, "Telecommunication Circuits and Technology", Academic Press 2000.
4. Smith Jack, "Modern Communication Circuits", New York, McGraw-Hill 1998.
5. G M. Miller and J S. Beasley, "Modern Electronic Communication", 8/E Prentice Hall, 2005.

Websites

Electronic communication that is closely related to the development levels of countries, has made considerable progress especially in terms of technology, innovation and entrepreneurship. In this study, it is investigated whether electronic communication in Turkey is used effectively using the data published by the Information and Communication Technologies Authority. **Keywords:** Multi criteria decision making, ELECTRE, TOPSIS, electronic communication, data mining.

1. INTRODUCTION. 15 Most Effective Communications Techniques and Strategies. Communication is becoming more and more difficult to master, because so few people actually utilize the three forms. While people are constantly connected, they are also detached by their heavy reliance on smart phones and other mobile devices. Here we've collected the top 15 communication techniques and strategies designed to help you learn to communicate properly. The Silent Treatment.