Communications I (ELCN 306)

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Outline

Analog Communications

Activity: Discussion

Digital Communications

Activity: Discussion

Wireless Communications

Activity: Discussion

Introduction: ILOs of ELCN 306?

By the end of this course, the student should be able to:

- $\cdots$
- Differentiate between pulse modulation schemes (PAM, PCM, DPCM, DM)
- Describe mathematically a random process
- Design FDM and TDM systems
- Solve problems related to communication systems, analytically and using software simulations.

How is the ELCN 306 organized?

ELCN 306

The course is divided into two parts:

1. Analog Communications
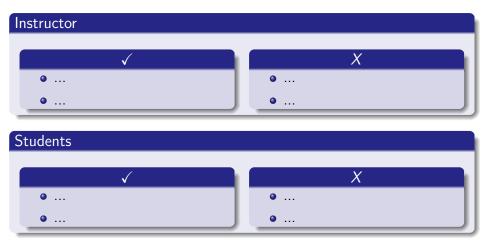2. Introduction to Digital Communications

This part of the course will focus on the transition from analog communication systems to digital communication systems. It will focus also on the introduction of random processes.

Instructor

Samy S. Soliman

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- **Office hours:** Thursday 12:00 PM - 2:00 PM & By Appointment

Code of Conduct

Instructor

✓	X
• ...	• ...
• ...	• ...

Students

✓	X
• ...	• ...
• ...	• ...

Introduction: Grading System (Part II)

Item	Grade
Class Work	20%
→ Class Participation	
→ Projects/Assignments	
→ Class Exams/Quizzes	
Final Exam	30%
Total	50%

Table: Grading System - ELCN 306 (Part II)

Activity: Discussion (What are the differences between analog signals and digital signals?)

Activity: Discussion (What is the need for Digital Communication Systems?)

1. Review on Sampling Theorem
2. Pulse Modulation Techniques
3. Pulse Code Modulation Systems
4. Introduction to Random Processes

References

📄 B. P. Lathi and Zhi Ding (2009)
Modern Digital and Analog Communication Systems, 4th Edition.
Oxford University Press.

📄 Simon Haykin (2001)
Communication Systems, 4th Edition.
John Wiley.

📄 Andreas Molisch (2011),
Wireless communications, 2nd Edition,
John Wiley & Sons.

Thank You

Questions ?

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