

EE303: Communication Systems

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Topics & Course Information

Topics

- ① **Introductory Concepts**
- ② **Digital Communications - An Overview of Fundamentals**
 - ① **Information Sources,**
 - ② **Communication Channels & Criteria and Limits**
 - ③ **Wireless Communications (SISO)**
 - ④ **Constellation Diagram and Digital Modulators/Demodulators**
 - ⑤ **PN-codes, PN-signals and Basics of Spread Spectrum Comms**
- ③ **Principles of PCM**
- ④ **Principles of 3G (CDMA), 4G (OFDMA) and 5G**

Useful Connections

- Professor Manikas:
<http://skynet.ee.imperial.ac.uk/manikas.html>
- Lecture Notes:
<http://skynet.ee.imperial.ac.uk/notes/notes.html>
- Following course on Twitter:
[@amanikas](#)
- Blackboard:
<https://bb.imperial.ac.uk>
- Panopto (video recordings of the Lectures):
<https://imperial.cloud.panopto.eu>
directory: [EE3-03 17-18](#)

Coursework (optional)

- The coursework is optional and partitioned into 2 parts (see Table-1).
 - ▶ The first part involves three computer-based "tests"
 - ▶ The second part is a software based assignment using MATLAB.

Table-1		
		Comments
Part-1:		Three Tests of MCQ
Part-2:		MATLAB based investigation

• Important Notes:

- 1 Past Examination Papers are **not** available for this course.
- 2 More than
 - ★ 50 representative **problems** and their solutions
 - ★ 30 MCQ
 are available and support this course,
- 3 If Part 2 is submitted then \exists "unspecified" **bonus**

Course Academic Weeks & Deadlines

- Table-2 shows the Autumn Term academic weeks (A1-A11) and various Comments.

Table-2			
Academic Weeks - Autumn Term			Comments
Week-A1	2 Oct. 2017	8 Oct. 2017	
Week-A2	9 Oct. 2017	15 Oct. 2017	
Week-A3	16 Oct. 2017	22 Oct. 2017	
Week-A4	23 Oct. 2017	29 Oct. 2017	
Week-A5	30 Oct. 2017	5 Nov. 2017	
Week-A6	6 Nov. 2017	12 Nov. 2017	
Week-A7	13 Nov. 2017	19 Nov. 2017	End of Lectures
Week-A8	20 Nov. 2017	26 Nov. 2017	Classes
Week-A9	27 Nov. 2017	3 Dec. 2017	Classes
Week-A10	4 Dec. 2017	10 Dec. 2017	Exam
Week-A11	11 Dec. 2017	17 Dec. 2017	

Books



Bernard Sclar

"Digital Communications - Fundamentals and Applications"

Prentice-Hall, 1988 or a more recent version.



I. A. Glover & P.M. Grant,

"Digital Communications",

Pearson and Prentice Hall, 2004.



S. Haykin,

"Communication Systems",

J. Wiley & Sons, 4rd edition, 2001.



R.E. Ziemer & R.L. Peterson,

"Introduction to Digital Communications",

MacMillan, 2nd edition, 2001.



R.L.Peterson, R.E.Ziemer, D.E. Borth,

"Introduction to Spread Spectrum Communications",

Prentice Hall, 1995.