

# EE3602A：通訊系統 (Communication Systems)

## Fall 2018



Wireless Information Transmission System Lab.  
Institute of Communications Engineering  
National Sun Yat-sen University

國立中山大學  
電機工程學系/通訊工程研究所

李志鵬

# Course Information



- ◇ 課程投影片：<http://wits.ice.nsysu.edu.tw/>=>開設課程
- ◇ Class Room: 工EC 3012
- ◇ Lecture: Thursday 13:10-16:00
- ◇ Office Hour: Monday 14:00-16:00 & Thursday 10:00~12:00.
  
- ◇ Office: F8003(電資大樓)
- ◇ Email: [cpli@faculty.nsysu.edu.tw](mailto:cpli@faculty.nsysu.edu.tw); 分機: 4480
  - ◇ Please make the appointment by email or phone call before you stop by my office.
  
- ◇ 助教：洪振彥、張岳綸、陳健瑋 (Lab:F9011; Tel:4481)
  
- ◇ Midterm - 35% ; Final - 35% ◦
- ◇ Two quizzes - 15% each ◦

# Course Information



◇ 教學目標：教導學生學習基礎之通訊理論，並使學生熟悉通訊理論所需之基礎數學工具，希望使學生具備完整之通訊系統架構概念。

◇ Textbook

Communication Systems, 5<sup>th</sup> Edition, International Student Version, Simon Haykin and Michael Moher, John Wiley & Sons (Asia) 2010.

ISBN:978-0-470-16996-4.

# 參考書目



- ◇ Principles of Communications, 6<sup>th</sup> Edition, Rodger E. Ziemer and William H. Tranter, Wiley, December 2008.  
ISBN-10: 0470252545; ISBN-13: 978-0470252543
- ◇ Communication Systems Engineering, 2<sup>nd</sup> Edition, John G. Proakis and Masoud Salehi, Prentice Hall, August 2001.  
ISBN-10: 0130617938; ISBN-13: 978-0130617934
- ◇ Modern Digital and Analog Communication Systems, 4<sup>th</sup> Edition, B. P. Lathi and Zhi Ding, Oxford, 2009.  
ISBN-10: 0195331451; ISBN-13: 978-0195331455
- ◇ Fundamentals of Communications Systems, Michael Fitz, McGraw-Hill Professional, June 2007.  
ISBN-10: 0071482806; ISBN-13: 978-0071482806

# 每周課程內容及預計進度



| 日期         | 授課內容                                     | 日期         | 授課內容   |
|------------|--|------------|--|
| 2018.09.13 | Introduction                             | 2018.11.15 | Random Variables and Processes                   |
| 2018.09.20 | Fourier Theory and Communication Signals | 2018.11.22 | Random Variables and Processes                   |
| 2018.09.27 | Fourier Theory and Communication Signals | 2018.11.29 | Digital Representation of Analog Signals         |
| 2018.10.04 | Fourier Theory and Communication Signals | 2018.12.03 | Digital Representation of Analog Signals         |
| 2018.10.11 | Amplitude Modulation                     | 2018.12.13 | Quiz #2 / Information & Forward Error Correction |
| 2018.10.18 | Quiz #1 / Amplitude Modulation           | 2018.12.20 | Information & Forward Error Correction           |
| 2018.10.25 | Phase and Frequency Modulation           | 2018.12.27 | Information & Forward Error Correction           |
| 2018.11.01 | Random Variables and Processes           | 2019.01.03 | Information & Forward Error Correction           |
| 2018.11.08 | 期中考試                                     | 2019.01.10 | 期末考試   |

# 考試日期、範圍



- ◇ Quiz 1 (Thursday, Oct. 18, 2018) - 75 minutes
  - ◇ Fourier Theory and Communication Signals (課本內容)
  
- ◇ Midterm (Thursday, Nov. 8, 2018) - 170 minutes
  - ◇ Introduction, Fourier Theory and Communication Signals, Amplitude Modulation, Phase and Frequency Modulation
  
- ◇ Quiz 2 (Thursday, Dec. 13, 2018) - 75 minutes
  - ◇ Ransom Variables and Processes (投影片內容)
  
- ◇ Final (Thursday, Jan. 10, 2019) - 170 minutes
  - ◇ Ransom Variables and Processes, Digital Representation of Analog Signals, Information & Forward Error Correction

# 考試規則與技巧



- ◇ Midterm、Final考試內容：
  - ◇ 課本與投影片內容：約40%
  - ◇ 課本習題：約30%
  - ◇ 課外題：約20%
  
- ◇ 拿高分的事前準備工作：
  - ◇ 熟讀並理解課本與投影片內容。
  - ◇ 多做例題與習題，熟練度很重要。
  
- ◇ 為了訓練同學的熟練度，基本上考試題目會很多，計算量會很大。

# 考試規則與技巧



- ◇ 考試的重點在測試同學學習到多少東西，老師要的不只是一個正確的答案，所以解題的方法與過程會比最後的答案重要。
- ◇ 考試時間絕不延長。
- ◇ 除了必備文具、計算機、計時器、飲料之外，其餘東西(包含講義、書本、手機、計算紙...等)一律不准帶到考場。
- ◇ 考卷發還給同學之前，會隨機抽樣(至少二分之一)掃描存檔。