

#### 一、課程說明(Course Description)

This is an introductory course to communication, i.e., the subject of transmitting information from one end and receiving information at another. The course will cover basic concepts of communication theory, noise processes, analog modulation and demodulation, sampling process, baseband digital modulation and demodulation, and equalization.

#### 二、指定用書(Text Books)

Simon Haykin, Communication Systems, 5th Edition, John Wiley & Sons, 2010.

#### 三、參考書籍(References)

1. Rodger E. Ziemer and William H. Tranter, Principles of Communications: Systems, Modulation, and Noise,” 6th Ed., John Wiley & Sons, 2010.
2. Simon Haykin, Communication Systems, 4th Edition, John Wiley & Sons, 2001.

#### 四、教學方式(Teaching Method)

3-hour lecture per week

#### 五、教學進度(Syllabus)

1. Introduction to Communication Systems (1 hour)
2. Fourier Theory and Communication Signals (4 hours)
3. Amplitude Modulation (6 hours)
4. Phase and Frequency Modulation (6 hours)
5. Random Variables and Processes (9 hours)
6. Noise in Analog Modulation (6 hours)
7. Digital Representation of Analog Signals (6 hours)
8. Baseband Transmission of Digital Signals (5 hours)

#### 六、成績考核(Evaluation)

Homework (16.5%)    Midterm I (30%)    Midterm II (30%)    Final Exam (23.5%)

#### 七、可連結之網頁位址

<http://lms.nthu.edu.tw/>