

### 一、課程說明(Course Description)

Probability theory is a powerful tool that helps Computer Science and Electrical Engineering students explain, model, analyze, and design the technology they develop. This course introduces the basic concepts and illustrates the applications of probability. We require students who have been familiar with C or C++ programming, Data Structure, and College Calculus (I,II). Lecture notes are provided in the website

<http://www.cs.nthu.edu.tw/~cchen/EECS3030/eecs3030.html>

<http://www.cs.nthu.edu.tw/~cchen/CS3332/cs3332.html>

### 二、指定用書(Text Books)

1. S. Ghahramani, Fundamentals of Probability with Stochastic Processes, 4th ed., CRC Press Taylor & Francis Group (2019)
2. Online Lecture Notes

### 三、參考書籍(References)

See <http://www.cs.nthu.edu.tw/~cchen/EECS3030/eecs3030.html>

<http://www.cs.nthu.edu.tw/~cchen/CS3332/cs3332.html>

1. R.V. Hogg and E.A. Tanis, D.L. Zimmerman, Probability and Statistical Inference, 9e, Pearson Global Edition, 2015.
2. S. Ghahramani, Fundamentals of Probability with Stochastic Processes, 3rd ed., CRC Press Taylor & Francis Group (2016)
3. J.A. Gubner, Probability and Random Processes for Electrical and Computer Engineers, Cambridge Press (2006)
4. D. Hanselman and B. Littlefield, Mastering MatLab 8 (2013)
5. S.G. Miaou and J.S. Chou, Fundamentals of Probability and Statistics, GauLih Books Co., LTD., Taiwan (2012)
6. S.M. Ross, Introduction to Probability and Statistics for Engineers and Scientists (v4, 2009)

### 四、教學方式(Teaching Method)

1. Lectures with notes provided on the website and handouts in class
2. Class Discussion
3. More details are explained in the first class meeting (Feb 17-21, 2020)

### 五、教學進度(Syllabus)

1. Most of Chapters 1~11 from the textbook
2. Selected topics from Chapter 13

### 六、成績考核(Evaluation)

(20%) Class Attendance and Quizzes  
(80%) Two Exams

### 七、可連結之網頁位址

<http://www.cs.nthu.edu.tw/~cchen/EECS3030/eecs3030.html>

<http://www.cs.nthu.edu.tw/~cchen/CS3332/cs3332.html>