

Probability

Object: This course provides an introduction to probability theory and covers probability axioms, discrete and continuous random variables, multiple random variables, and basic limit theorems. We may also cover fundamentals of the Bernoulli, Poisson processes and Markov chains.

Year/Semester: 2012/Spring

Time: 9:10–12:00, Tue.

Place: 1F04, Social Science Building

Instructor: Dr. Peng-Hua Wang

Office: 5F07, Social Science Building

Office Hours: 13:10–14:00, Mon. and 13:10–14:00, Tue.

E-mail: phwang@mail.ntpu.edu.tw

Home Page: <http://web.ntpu.edu.tw/phwang/>

Textbook: Bertsekas and Tsitsiklis, *Introduction to Probability*, 2nd ed., Athena Scientific.

Grading: Homework: 30%, Midterm: 30%, Final exam: 30%, Course Attendance: 10%.

Lectures:

No.	Date	Topic
1	2012/2/21	Course overview, introduction
2	2/28	<i>No Class</i>
3	3/6	1.1 – 1.3: sets, probability models, conditional probability
4	3/13	1.4 – 1.5: total probability theorem, independence
5	3/20	1.6 – 2.3: counting, r.v.(concepts, pmf, functions)
6	3/27	2.4 – 2.6: r.v.(statistics, multiple r.v., conditioning)
7	4/3	2.7 – 3.3: independence, continuous r.v.(pdf, cdf, normal r.v.)
8	4/10	3.4 – 3.5: joint pdf, conditionalizing
9	4/17	3.6 – 4.1: derived distributions
10	4/24	<i>Midterm Exam</i>
11	5/1	4.2 – 4.4: statistics, transforms
12	5/8	4.2 – 4.4: statistics, transforms
13	5/15	4.5 – 5.1: sum of rvs, inequality
14	5/22	5.2: Weak Law, CLT
15	5/29	6.1: Bernoulli processs
16	6/5	6.2: Poisson process
17	6/12	6.3: Morkov processes
18	6/19	<i>Final Exam</i>