一. 課程說明(Course Description)

This is a fundamental course on probability theory and its applications. Probability is essential to the understanding and development of many areas of science and engineering.

二. 指定用書(Text Books)

S. Ghahramani, "Fundamentals of Probability", 3rd edition, 2005, Pearson/Prentice Hall

三、參考書籍(References)

D.P. Bertsekas and J. N. Tsitsiklis, Introduction to Probability, 2nd edn. 2008, Athena Scientific

四、教學方式(Teaching Method)

3-hour lecture per week

五、教學進度(Syllabus)

1. Axioms of Probability (4 hours)

2. Combinatorial Methods    (3 hours)

3. Conditional Probability and Independence    (3 hours)

4. Distribution Functions and Discrete Random Variables    (4.5 hours)

5. Special Discrete Distributions    (3 hours)

6. Continuous Random Variables    (3.5 hours)

7. Special Continuous Distributions    (3.5 hours)

8. Bivariate Distributions    (5 hours)

9. Multivariate Distributions    (2 hours)

10. More Expectations and Variances    (4 hours)

11. Sums of Independent Random Variables and Limit Theorems (6.5 hours)

六、成績考核(Evaluation)

Homework is important for any course in mathematics. Each student is required to do all homework assignments by him/herself.

Homework assignments (16%); Midterm I (24%); Midterm II (30%); Final Exam (30%)

七. 可連結之網頁位址