

DCP1186 Probability Theory

- **Time of offering:** Spring Term, 2009
- **Level:** Mandatory for all the CS undergraduates
- **Course Instructor**
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 - URL: <http://mapl.nctu.edu.tw>
- **Recitation Instructor**
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- **Course Administrators**
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- **Course Homepage**
 - http://mapl.nctu.edu.tw/course/Pro_2009/index.php
- **Lecture**
 - The course meets on Mondays from 3:40pm to 4:30pm (1G) and Thursdays from 10:00am to 12:00am (4CD), in **EC015**.
 - There will be a 2-hour recitation session on **Wednesdays** from 7:30pm to 9:20pm (check the announcement of the course web page for the classroom and the first recitation session). Attendance to the recitation session is highly recommended.

- **Course Outline**

1. Axioms of probability
2. Combinatorial methods
3. Conditional probability and independence
4. Distributed functions and discrete random variables
5. Special discrete distributions
6. Continuous random variables
7. Special continuous distributions
8. Bivariate distribution
9. Multivariate distribution
10. More expectations and variances
11. Sums of independent random variables and limit theorems

- **Text Books**

- S. Ghahramani, *Fundamentals of Probability with Stochastic Processes*, 3rd ed., Prentice Hall, 2005.
- Lecture Notes by Prof. Rong-Jaye Chen (陳榮傑)

- **Reference**

- K. L. Chung and F. AitSahlia, *Elementary Probability Theory with Stochastic Processes and an Introduction to Mathematical Finance*, 4th ed., Springer-Verlag, 2003. (**Highly Recommended**)
- W. Feller, *An Introduction to Probability Theory and Its Applications*, 3rd ed., Wiley, 1950. (**Bible Text**)
- D. P. Bertsekas and J. N. Tsitsiklis, *Introduction to Probability*, 1st ed., Athena Scientific, 2002.

- **Grading Policy**

- 2 midterm (25% each)
- Final 30%
- Homework 10%
- Attendance 10% (Roll call may be made from time to time)

- **Office Hours**

- Every Monday/Thursday after classes in EC431.
- Other time slots are also possible by appointments beforehand.

- **Miscellaneous**

- 4/20~4/24 Attend MPEG Meeting in Maui, HI, USA