1. **Instructor(s)**
   Name: Shuoqing Deng.
   Contact Details: Office: Room 3485. Tel: 23587423. Email: masdeng@ust.hk.

2. **Teaching Assistant(s)**
   Name: Congyuan Duan.
   Contact Details: Email: cduanac@connect.ust.hk.

3. **Meeting Time and Venue**

   Lectures:

   Date/Time: Monday and Wednesday (10:30 – 11:50)

   Venue: LTE

   Tutorials A:

   Date/Time: Thursday (11:00-11:50)

   Venue: LSK1032

   Tutorials B:

   Date/Time: Thursday (17:00-17:50)

   Venue: 4504

4. **Course Description**
   Credit Points: 3
   Brief Information/synopsis:

   This course covers topics including probability spaces, discrete and continuous random variables, joint distributions and conditional expectations, characteristic functions and limit theorems.
   It roughly corresponds to Chapter 1-5 and 7 of the Grimmett-Stirzaker book.

5. **Intended Learning Outcomes**

Upon successful completion of this course, students should be able to:

No.	ILOs
1	Explain concepts at high levels and implement basic operations in probability.
2	Identify and describe the basic probability distributions and understand the calculation of expectations and variances.
3	Formulate mathematical models and solve mathematical problems using probability.
4	Solve real-world problems by simple Monte Carlo simulations.

6. **Assessment Scheme**
    a. Midterm Examination duration: 1.5 hrs. Final Exam duration: 3 hours.
    b. Percentage of coursework, examination, etc.:

Assessment	Assessing Course ILOs
20% by homework	1, 2, 3, 4
30% midterm	1, 3
50% by exam	1, 3

    c. The grading is assigned based on students' performance in homework/exams.

7. **Student Learning Resources**

Recommended Reading:

Textbook(s): Geoffrey Grimmett and David Stirzaker, Probability and Random Processes, 3rd edition, Oxford University Press, 2001.

8. **Teaching and Learning Activities**

Scheduled activities: 4 hrs (lecture + tutorial)

9. **Course Schedule**

Keyword Syllabus:
* Probability spaces.
* Discrete and random variables.
* Continuous random variables.
* Joint distributions and conditional expectations.
* Characteristic functions.
* Limit theorems.