

# Brown University MA 1610 - Probability

## Fall Term 2014

**Class time/place:** Tuesday-Thursday 2:30-3:50pm, Barus & Holley 158

**Instructor:** Dr. Francesco Di Plinio / Kassir 313 / [fradipli@brown.edu](mailto:fradipli@brown.edu)

**Office hours:** MWF 2:20pm-3:30pm or by appointment. Office hours take place in my office.

**Prerequisites:** Intermediate Calculus MA 0180, MA 0200, MA 0350.

**Learning objectives:** this class is an introduction to basic probability theory. Topics include discrete and continuous random variables, combinatorics, distributions and densities, expectation and correlations, and limit theorems. Applications to physics, engineering and other sciences will be presented throughout, and numerical simulations will be employed as a learning tool. I will emphasize the following three learning objectives: being able to construct probabilistic models of concrete experiments, acquiring systematic problem solving techniques, relating probabilistic concepts to previous mathematical knowledge. I also expect students to improve on their ability to properly write Mathematics.

**Course textbook:** Grinstead and Snell, Introduction to Probability. Available in print or online (freely) at the address

[http://www.dartmouth.edu/~chance/teaching\\_aids/books\\_articles/probability\\_book/book.html](http://www.dartmouth.edu/~chance/teaching_aids/books_articles/probability_book/book.html)

We will cover most sections in Chapters 1 to 10. If time permits, we will look at Markov Chains in Chapter 11. A detailed but tentative week-by-week breakdown of the sections covered can be found on the course web page below.

**Course web page:** <https://canvas.brown.edu/courses/931227>. Used to gain access to syllabus, assignments, occasional lecture notes, practice exams, and course announcements.

### Course procedures

- **Attendance:** Students are strongly encouraged to attend every class and are responsible for everything said in class, including changes to the course syllabus and this information sheet.
- **Homework:** I will assign graded homework each week in class and through the course webpage with due date usually being the subsequent Tuesday, in class. I plan to assign 11 graded homework sets. No homework will be due the midterm week (week 7). A detailed breakdown of assignment timings can be found on the course web page.
- **Exams:** There will be one midterm and one final exam in addition to homework assignment. Dates are as follows
  - **Midterm:** Thursday, October 23, 2:30 PM–3:50 PM, in class.
  - **Final:** Friday, December 19, 9:00 AM–12:00 AM, room TBA.
- **Missed quizzes and exams:** Makeups are generally not allowed. If you feel you have to miss an exam for a serious reason, you must notify me well in advance.

- **Grading** Your final grade will be weighted as follows: Homework 35% Midterm 25% Final 40%.

**Help!**

- **My office hours** are a time during which you can meet with me for more individualized instruction. They are also a time to discuss general concerns about the course.
- **Email questions:** use the address `fradipli@brown.edu` and open the subject line with **MA 1610**. I will be answering course and homework related email Monday-Friday 9:30AM-10:30AM. I will not be answering email during the weekend or outside of these times.

**Learning mathematics:** Some hints: study groups are useful, but make sure you also practice alone; do all the homework; don't fall behind; do practice problems until you are confident you have mastered the material. Use the office hours as much as you can.

Good luck!