Math 60 – Spring 2018

My Contact Information:

Name:	Jay Pantone
Office:	Kemeny 320
Email:	jp@dartmouth.edu
Website:	http://jaypantone.com/courses/spring18math60
Lectures:	MWF, 11:30am - 12:35pm
X-hour:	Tu, 12:15pm - 1:05pm
Office Hours:	Monday, 4:00pm - 5:00pm
	Tuesday, 3:00pm - 4:00pm
	Thursday, 10:00am - 11:00am

Course Description:

Math 60 is an honors version of Math 20. It covers the material of Math 20 but in more depth and from a much more theoretical perspective, with an emphasis on formal proofs. Several additional topics are added as well.

Math 20 Course Description: Our capacity to fathom the world around us hinges on our ability to understand quantities which are inherently unpredictable. Therefore, in order to gain more accurate mathematical models of the natural world we must incorporate probability into the mix. This course will serve as an introduction to the foundations of probability theory. Topics covered will include some of the following: discrete and continuous random variables, random vectors, multivariate distributions, expectations; independence, conditioning, conditional distributions and expectations; strong law of large numbers and the central limit theorem; random walks and Markov chains.

Textbook:

We will use material from two textbooks.

1. *Probability*, by Jim Pitman. There is only one edition of this book. You should be able to find it used for $40 – $50.

2. *Introduction to Probability*, by Grinstead and Snell. This book is available online for free: https://math.dartmouth.edu/~prob/prob/prob.pdf

Writing Formal Proofs:

As an honors course, Math 60 places a heavy emphasis on understanding and writing formal mathematical proofs. Early in the course, we will briefly review how to read and write proofs, but some previous experience will be very helpful.

Writing proofs will be a significant part of weekly homework assignments. A portion of the homework grade will be based on the student's ability to write proofs clearly and effectively.

Canvas:

Student grades will be posted on Canvas, and may be accessed through http://canvas.dartmouth.edu. All other course material will be posted on our course page. Please do not email me through the Canvas system.

X-hour:

We will use the X-hour occasionally throughout the quarter, so be sure not to schedule anything during that time (12:15pm - 1:05pm, Tuesday).

Homework:

Homework will be assigned each Wednesday and will be due the following Wednesday. There will be a total of nine homework assignments.

Unexcused late assignments will not be accepted.

Homework Collaboration Policy:

It can be very helpful to study and work with a group. This type of cooperative learning is encouraged; however, be sure that you have a thorough understanding of the concepts as well as the mathematical steps used to solve a problem. You must be able to work through the problems on your own. Each student must write up her or his assignment individually and independently and must turn in her or his own work.

On each homework assignment, you must **list** any resources you used to help you complete the assignment. This includes other class members with whom you discussed the problems.

Returned Papers:

You must retain all returned papers in case of any discrepancy with the recorded grades on Canvas. I cannot correct any mistakes in grading or recording of scores without the original document. All concerns regarding grades on assignments or exams must be handled within one week of the return of the paper.

Quizzes and Exams:

There will be two in-class hour-long quizzes, one two-hour midterm, and a final exam. The final exam will be cumulative, but with more weight on the material covered since the midterm. The dates and locations for the quizzes exams will be posted on the course webpage and announced in class.

If you will miss a quiz or exam due to a College activity, you must seek approval from me at least two weeks prior to the quiz or exam.

Grading Scheme:

Course scores are weighted as follows:

Homework	25%
Quiz 1	10%
Quiz 2	10%
Midterm Exam	25%
Final Exam	30%

Disabilities

Students with disabilities who will be taking this course and may need disability-related classroom accommodations are encouraged to make an appointment to see me as soon as possible. Also, they should stop by the Academic Skills Center in Collis Center to register for support services.

Religious Observances

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.