

**MATH 1100 L02**  
**Finite Mathematics**  
**Fall 2025**

TIME: 8:30-9:45am, Mon/Wed

LOCATION: LL-512

INSTRUCTOR: Ryan Utke

EMAIL: rutke@fordham.edu

OFFICE HOUR: Monday 11-12am in LL812 (or by appointment)

**Course description.** This course introduces various topics that demonstrate fundamental mathematical ideas and concepts needed to analyze real-world problems. Topics include basic concepts of mathematical finance, sets, counting principles, basic concepts of probability, conditional probability, normal distributions, and binomial distribution. Three different types of mathematical thinking are encountered: deductive mathematical logic, probabilistic reasoning, and mathematical modeling. Upon successful completion of this course, students should be able to set up basic mathematical models and solve them using appropriate tools in the context of real-world problems.

This course satisfies the Mathematical and Computational Reasoning requirement in Fordham's Core Curriculum.

**Textbook.** *Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences*, 14th Edition, by Barnett, Ziegler, Byleen, Stocker.

- Students are NOT required to purchase a physical copy of the textbook.
- Students must purchase access to MyLab Math (please follow the instructions posted on Blackboard), using their Fordham email address to create their MyLab Math account.

**Course Content.**

- (Chapter 3) Mathematical Finance  
Simple and compound interest. Future value of an annuity and sinking funds. Present value of annuity and amortization.
- (Chapter 7) Sets and Counting Principles  
Sets: union, intersection, complement. Basic counting principles. Permutations and combinations.
- (Chapter 8) Probability  
Sample spaces, events, probability. Union, intersection, and complement of events. Odds. Conditional probability and independent events. Tree diagrams and Bayes' Theorem. Random variables, probability distributions, expected value.
- (Chapter 10) Binomial and normal distribution  
Benouilli trials and Binomial distribution. Normal distribution.

**Communication.** Handouts, notes, class announcements, and quiz and test grades will be posted in Blackboard. Homework scores can be found in MyLab Math.

**Course Grade.** The numerical grade will be computed using the following formula.

Online HW: 15%, Written HW: 15%, Midterms: 20% each, Final: 30%.

Grades will be assigned according to the following table.

A	93-100%
A-	<b>90</b> -92%
B+	87-89%
B	83-86%
B-	<b>80</b> -82%
C+	77-79%
C	73-76%
C-	<b>70</b> -72%
D	<b>60</b> -69%
F	< 60%

The instructor reserves the right to adjust this scale, but students are guaranteed at least the grade assigned by this chart.

**Time commitment.** Students are expected to take notes, review them, do the weekly homework, and prepare for midterms and final. Reviewing notes is crucial for a successful performance in this class.

**Attendance policy.** Students may be dropped after 3 absences. Regular attendance is essential for the successful completion of this course. Absence is not an excuse for coming to class unprepared.

**Exams.** There are two in-class midterms and a cumulative final exam, which are tentatively scheduled as follows.

- Midterm 1: October 8
- Midterm 2: November 17
- Final exam: [to be determined]

Make-up tests will only be permitted for excused absences. In order to qualify for a make-up test, the student must contact the instructor within 24 hours of the absence by phone or email and be prepared to follow the college's policy on excused absences.

Textbooks or notes are *not* permitted. A formula sheet will be provided *only with the math for finance and binomial probability formulas*.

**Homework.** There are two types of homework.

1. Online homework (weekly): this will be on MyMathLab.
2. Written homework. Every 2-3 weeks a handful of problems will be posted as a PDF. You will have one week to work on the problems and submit hand-written solutions. Please do not email this homework.

Late homework will only be accepted with the permission of the instructor.

**Calculators.** Calculators or other electronic devices are permitted and sometimes necessary for homework problems. Only TI 30X IIS scientific calculators are allowed on exams. *No other calculators will be permitted on exams.* Cell phones, tablets, and computers will not be permitted on exams.

**Academic Integrity.** By being enrolled at Fordham University, students are bound to comply with the University Code of Conduct, which includes, but is not limited to the Standards of Academic Integrity found at

[http://www.fordham.edu/info/25380/undergraduate\\_academic\\_integrity\\_policy](http://www.fordham.edu/info/25380/undergraduate_academic_integrity_policy)

All portions of the academic integrity policy will apply to this class. Cheating on a homework assignment or quiz will result in a grade of zero on that homework assignment or quiz. Cheating on a test will result in an F in the course.

**Disabilities.** Under the Americans with Disabilities Act, all members of the campus community are entitled to equal access to the programs and activities of Fordham University. If a student has a disability that may impact the participation in the activities, coursework, or assessment of this course, he/she may be entitled to accommodations through the Office of Disability Services. The student can contact them at 718-817-0655, [disabilityservices@fordham.edu](mailto:disabilityservices@fordham.edu), or by visiting the lower level of O'Hare Hall (Rose Hill campus) or Lowenstein 408 (Lincoln Center campus).

**Help and Tutoring.** Help is available!

- Students can come to office hours.
- Students can go to the Math Help Room whenever it is open. It is free, and appointments are not needed.
- FCRH and FCLC students may make tutoring appointments through Knack.
- MyLab Math contains many helpful resources, too.

**Important Dates:**

- Wednesday, August 27: classes begin.
- Monday, September 1: Labor Day - no classes.
- Wednesday, September 3: classes follow a Monday schedule.
- Monday, October 13: Columbus Day, no classes.
- Wednesday, November 26 - Sunday, November 30: Thanksgiving recess, no classes.
- Monday, December 1: Last day for designating a course Pass/Fail, or to withdraw without incurring into WF.
- Tuesday, December 9: last day of classes.

## Schedule.

Meeting	Date	Topics
1	8/27	3.1: Simple Interest.
2	9/3	3.2: Compound Interest.
3	9/8	3.3: Future Value of an Annuity; Sinking Funds.
4	9/10	3.4: Present Value of an Annuity.
5	9/15	3.4: Amortization.
6	9/17	Exercises (review Chapter 3).
7	9/22	7.2: Sets.
8	9/24	7.3: Basic Counting Principles.
9	9/29	7.4: Permutations and Combinations.
10	10/1	Exercises (review Chapter 7).
11	10/6	Review.
12	10/8	<b>First midterm</b>
13	10/15	8.1: Sample Spaces, Events, Probability.
14	10/20	8.2: Union, Intersection, and Complement of Events. Odds.
15	10/22	Exercises (8.1, 8.2).
16	10/27	8.3: Conditional Probability, Intersection, Probability Trees.
17	10/29	8.3: Independent events.
18	11/3	8.4: Bayes' Theorem.
19	11/5	8.5: Random Variables, Probability Distributions, Expected value.
20	11/10	Exercises (8.3, 8.4, 8.5).
21	11/12	Review.
22	11/17	<b>Second midterm</b>
23	11/19	10.4: Bernoulli Trials and Binomial Distribution.
24	11/24	10.5: Normal distribution.
25	12/1	10.5: Normal approximation to the binomial distribution (optional).
26	12/3	Exercises (review Chapter 10).
27	12/8	Review

**Disclaimer** The course syllabus is a general plan for the course. The instructor may deviate from the syllabus, but all such deviations will be announced in class and posted to the course webpage.