MATH 1215 Sec 06 **Mathematical Thinking** **Fall 2014**

This course focuses on the development of mathematical thinking and its use in a variety of contexts to translate real-world problems into mathematical form and, through analysis, to obtain new information and reach conclusions about the original problems. Topics include symbolic logic, logical arguments, sets, counting principles, and topics in probability theory.

Instructor Nicholas Matteo, 537 Nightingale, matteo.n@husky.neu.edu

Office Hours T 12:30 – 1:30 & 3:30 – 4:30 pm, F 12:30 – 1:30 pm, or by appointment

Lectures TF 1:35 – 3:15 pm, 409 Robinson

CRN 12321

Text and Online Homework Access Kit *Finite Mathematics* by Lial, Greenwell and Ritchey, Third Custom Edition for Northeastern University, with *MyMathLab Student Access Kit.*
Our course ID for MyMathLab is **matteo73403**.

Calculator A scientific calculator which can compute permutations and combinations.

Recitation Sections Students who would like extra help with quizzes are encouraged to attend any of the four weekly one-hour recitations (starting September 9) in **544 Nightingale** on **Tuesdays 5:00pm** and **Wednesdays 12:00** and **1:30pm**, and in **509 Lake** on **Wednesdays 4:30pm.**
You do not need to register; just show up. Students with a course average below 80% may get up to 2 points by attending recitations: 1/2 point for a session, up to a maximum of 2 points. This is the *only* extra credit that can be earned in this course.

Grading This course CANNOT be taken pass/fail. Your grade is determined as follows.

Attendance and In-class Problems 5% **Online Homework 5%**
Quizzes 35% **Midterm 15%** **Final Exam 40%**

93-100 A	90-92 A-	87-89 B+	83-86 B	80-82 B-	77-79 C+
73-76 C	70-72 C-	67-69 D+	63-66 D	60-62 D-	0-59 F

Attendance Students are expected to attend all classes and are responsible for all information given when they are absent. The use of electronics is strongly discouraged.

Quizzes The best 7 out of 9 quizzes will be counted. There is no makeup for missed quizzes, unless the absence is university sanctioned (e.g. jury duty, athletic absences). The student must notify the instructor of the absence in advance and make arrangements for a makeup.

Midterm There will be a one-hour in-class midterm.

Final Exam All students must take a cumulative, common final exam at the scheduled time during the final exam period (unless you have a legitimate schedule conflict). In particular, do not make travel plans that conflict with the final exam.

Concerns If you have a concern about the course that cannot be resolved with the instructor, you may contact the course coordinator, Prof. Eugene Gover, e.gover@neu.edu.

Disabilities Students with disabilities may consult the Disabilities Resource Center (20 Dodge Hall, ext. 2675) and have their disabilities verified for appropriate accommodations.

Math Tutorial Center 540B Nightingale, hours: MTW 10am–8pm, R 10am–6pm, F 10am–1pm.
You may walk in or make appointments on MyNEU; choose Tutoring and select MATH1215.

Academic Honesty Cheating will not be tolerated. Every incident will be reported, and will result in a score of zero for the test or a failing grade for the course. For more information, visit northeastern.edu/osccr/academicintegrity.

Tentative Schedule

Week		
1	9/5 (F)	Logical statements; connectives; truth tables for "not", "and", "or" (6.1) Truth tables for compound statements; equivalent statements (6.2)
2	9/9 (T)	Conditional statements (6.3 and 6.4)
	9/12 (F)	**Quiz 1** (6.1, 6.2)
3	9/16 (T)	Basic laws of equivalent statements (6.3)
	9/19 (F)	**Quiz 2** (6.3, 6.4); Logical arguments (6.5)
4	9/23 (T)	Logical arguments (6.5)
	9/26 (F)	**Quiz 3** (6.5); Sets (7.1)
5	9/30 (T)	Sets
	10/3 (F)	Applications of Venn Diagrams (7.2)
6	10/7 (T)	**Quiz 4** (7.1, 7.2); Basic probability (7.3)
	10/10 (F)	Review for Midterm (6.1–6.5 and 7.1–7.3)
7	10/14 (T)	**MIDTERM (6.1–6.5 and 7.1–7.3)**
	10/17 (F)	7.4; Conditional probability and independent events (7.5)
8	10/21 (T)	Bayes Theorem (7.6)
	10/24 (F)	**Quiz 5** (7.5)
9	10/27 (T)	Counting: Multiplication principle and Permutations (8.1)
	10/31 (F)	**Quiz 6** (7.5, 7.6); Counting: Combinations (8.2)
10	11/4 (T)	Application of counting in probability (8.3)
	11/7 (F)	**Quiz 7** (8.1, 8.2); Binomial probability (8.4)
11	~~11/11 (T)~~	No class (Veterans Day)
	11/14 (F)	Probability: assorted problems (8.3, 8.4)
12	11/18 (T)	**Quiz 8** (8.3, 8.4); Probability distributions and expected values (8.5)
	11/21 (F)	Expected values and decisions (8.5); Review for Quiz 9
13	11/25 (T)	**Quiz 9** (8.5); Review for Final Exam ** Note the unusual day
	~~11/28 (F)~~	No class (Thanksgiving)
14	12/2 (T)	Review for Final Exam
	12/10 (W)	**Final Exam**: 10:30 am – 12:30 pm. Location to be announced.

Drop Dates

9/23 (T)	Drop without W
11/18 (T)	Drop with W