

**Bridge to Advanced Mathematics**  
**MATH 308, Section 1XB, Summer 2015**  
**M, W, Th 10:30am – 12:10pm, Shepard S-308**

**Instructor:** Jhevon Smith. (“Jhevon” is fine.)

**Email:** JhevonTeaches@gmail.com

**Office Hours:** By appointment only.

**Website:** [http://math.sci.ccny.cuny.edu/people?name=Jhevon\\_Smith](http://math.sci.ccny.cuny.edu/people?name=Jhevon_Smith)

**Texts:** (1) Chartrand, Polimeni, and Zhang; *Mathematical Proofs: A Transition to Advanced Mathematics*, 3<sup>rd</sup> Edition.

(2) Ross; *Elementary Analysis: The Theory of Calculus*, 2<sup>nd</sup> Edition.

**Math Dept.:** NAC 8/133    **Math Dept. website:** <http://math.sci.ccny.cuny.edu>

**Math 308 website:** [http://math.sci.ccny.cuny.edu/courses?name=Math\\_30800](http://math.sci.ccny.cuny.edu/courses?name=Math_30800)

**Websites:** I gave you my website since I will be posting documents and instructions for the class there, such as: review topics, announcements, solutions to tests and quizzes, etc. I gave you the math 308 website because you can download a free copy of textbook (2) there, while you’re on campus. I gave you the math. dept. website because, well, you should have it.

**Calculators/Technology:** While you may use these to do your homework or explore some topic in depth, you will not be allowed to use them on any quiz or exam. They wouldn’t help much anyway.

**Grading:** Grades will be assigned according to the following chart.

Letter Grade	G.P.A.	Grade	Letter grade	G.P.A.	Grade
A <sup>+</sup>	4.00	97-100	C+	2.33	67 - 69
A	4.00	91-96	C	2.00	60-66
A <sup>-</sup>	3.66	80-90	<b>D</b>	<b>1.00</b>	<b>50-59</b>
B <sup>+</sup>	3.33	77-79	<b>F</b>	<b>0</b>	<b>Below 60</b>
B	3.00	74-76			
B-	2.66	70-73			

As department policy demands, the final exam is worth 40% of your grade in this course. The remaining 60% will come from your in-class grade; the breakdown of your numerical grade will be as follows:

**Quizzes/HW: 15%** (Every class, I will either give a quiz, or collect HW).

**Participation: 5%** (Based mostly on attendance, the only mercy you will get in this class).

**In-class tests: 40%** (I will give two exams, none will be dropped).

**Final Exam: 40%** (This will be a cumulative exam given at the end of the course).

**Extra Credit:** If I offer it, then it will be hard...

**Make-up Exams/Quizzes:** No way... Always be here. Always on time. Don’t get sick. Don’t have a crisis.

**Attendance:** Attendance will be taken at the beginning of class. You are *late* if you arrive after your name is called. You will be assigned a WU (failing) grade if you accumulate 5 unexcused absences.

To be excused for an absence (or lateness) you must email me no later than one day after that particular absence (or lateness) with the reason. Of course, proof is required where applicable. For example, if your absence or lateness was due to a medical emergency, I expect to see a doctor's note. If you miss a class, it is your responsibility to catch up. You can see me during my office hour to discuss what was done in class, or catch up on your own. It's up to you. **To reiterate, there is no make-up for a missed quiz/homework/exam.**

### **My Expectations:**

**Work ethic:** You are not to slack off! In this class, that is tantamount to death. You are to read ahead! Very Important! Read each section before coming to class. It's better if you have your mind working on the concepts before coming to class—it will be easier for you to keep up and ask intelligent questions. Make note of definitions and notation especially. You will find that knowing the definitions and knowing how to write something down clearly and with the right notation is half the battle. Read (intelligently) and do the homework. It is highly unlikely that you will do well by just coming to class, even if you pay attention. Hopefully by now you've realized, watching someone do math on the board is different from doing it yourself.

**Homework:** Homework problems from the texts can be found in the list at the end of this syllabus. Every class, I will either collect the homework or give a quiz that you wouldn't be able to do had you not done the homework. The homework for a section is due once I complete that section in class (whether I announced that I completed it or not. Ask me if you're not sure, or follow along in the text). In the even that I collect homework, **late homework will NOT be accepted.** The excuse does not matter.

I expect your hand-in homework to follow certain guidelines (**you lose points otherwise**):

- (1) Show all your work, writing down your full solutions clearly. This goes for homework and *everything* else you do in this class.
- (2) Your homework must be stapled if it consists of more than one page.
- (3) Your homework must be properly labeled: **Your name, the HW number and topic(s)** (see the syllabus for what these are).
- (4) Only ONE HW number per stapled group.
- (5) Be neat! And write legibly, for Pete's sake!

I also expect you to remember all the math that you have done before this course. We usually won't specifically use things that you've done, in say, calculus, but I expect a level of mathematical maturity befitting those who are experts at the lower level math courses. I will heavily punish any elementary mathematical mistakes. Such things are now beneath you.

**Contact: You are to email me at the end of the first day of class, stating your name, your course and its section. I will deduct 5 points off your final grade if you fail to do this.** I will be emailing important information from time to time; including progress reports, announcements and advice as needed. Please read the emails. If I email you, it means it is important—important enough for me to take the time to write an email so that you will have it in writing.

**Feedback:** I encourage you to give me feedback about my teaching or the class, whether positive or negative (just make it constructive please). You can email me or talk to me, or if you don't want to reveal your identity, there is an anonymous feedback page on my website.

**Help:** FREE tutoring is available in the Marshak Building, room 418S. I am also a tutor there. The hours for the summer semester are: Mondays through Thursdays 12pm – 5pm. There are also online resources available. A great place to get math help, even at odd hours, is [www.mathhelpforum.com](http://www.mathhelpforum.com). [Mathhelpboards.com](http://Mathhelpboards.com) is also nice. [Math.stackexchange.com](http://Math.stackexchange.com) is a bit more advanced, but you can also find help there. There are a significant number of brilliant people from varying time zones who decide to spend their free time helping others with math at sites like those. Take advantage of these great services. Of course, there are other online contenders like various YouTubers, etc. Check them out. And don't forget your classmates. You should get the contact information of at least one person that you can study with or get missed notes from if you are absent, etc. You're all in this together, help each other out. And, of course, there is always me! Don't be afraid to come to me if you have questions or concerns. You can contact me via email or see me after class or during my office hour.

**Some class rules:** Please silence your cell phones and don't use them when in class. Eating in class is NOT allowed. Drinking is permitted, as long as you remove your garbage afterwards.

**Academic Integrity:** Any act of academic dishonesty will be dealt with by applying the most stringent penalties permitted. Cheating includes, but is not limited to, receiving help during exams and submitting homework without properly acknowledging persons who assisted you. Please read carefully the Policy on Academic Integrity posted on the CUNY website with URL [http://www1.cuny.edu/portal\\_ur/content/2004/policies/image/policy.pdf](http://www1.cuny.edu/portal_ur/content/2004/policies/image/policy.pdf)

**I really don't like cheating. Please don't do it. There, I asked nicely.**

### Topics and Assignments:

HW #	Section	Topic	Problems to do
<b>From the Mathematical Proofs Text</b>			
1	1.1- 1.6	Sets	Chapter 1 Exercises: 1 – 5 all, 10, 14, 15, 16, 19, 22, 26, 36, 37, 38, 41, 47, 48, 50, 57, 58
2	2.1 – 2.10	Logic	Chapter 2 Exercises: 1, 3, 11, 15, 16, 22, 34, 35, 46, 47, 48, 51, 53(a),
3	3.1 – 3.4	Direct Proof and Proof by Contrapositive	Chapter 3 Exercises: 3, 8, 10, 12, 16, 18, 19, 26, 28, 29, 31
4	4.1 – 4.6	More on Direct Proof and Proof by Contrapositive	Chapter 4 Exercises: 1, 4, 5, 14, 18, 32, 40, 43, 49, 53, 56, 62, 67
5	5.1 – 5.5	Existence and Proof by Contradiction	Chapter 5 Exercises: 1, 10, 16, 18, 19, 20, 21, 34, 40, 41, 42, 49
6	6.1 - 6.4	Mathematical Induction	Chapter 6 Exercises: 1, 2, 3, 4, 8, 11, 20, 22, 23, 29, 30, 33, 41, 43, 44
7	7.1 - 7.3	Prove or Disprove	Chapter 7 Exercises: 30, 34, 59, 61, 64, 79
*	<b>Test #1</b>	<b>On topics 1 through 7</b>	<b>Given in class</b>
8	8.1 - 8.6	Equivalence Relations	Chapter 8 Exercises: 1, 5, 11, 12, 15, 18, 25, 28, 30, 38, 44, 51, 58, 59
9	9.1 - 9.6	Functions	Chapter 9 Exercises: 1, 11, 12, 13, 18, 19, 20, 30, 31, 32, 40, 43, 46, 59
10	10.1 - 10.5	Cardinalities of Sets	Chapter 10 Exercises: 3, 9, 10, 11, 12, 20, 22, 23, 27, 28, 30, 32, 44
<b>From the Elementary Analysis Text</b>			
11	1.2	The set of rational numbers	1, 2, 3, 4, 7
12	1.3	The set of real numbers	1, 3, 4, 5, 6(b), 7, 8
13	1.4	The Completeness Axiom	1 (one upper bound each), 2, 3, 4, 6, 7, 8, 9, 10, 11, 14, 16
14	1.5	Infinity!	1, 4, 6
*	<b>Test #2</b>	<b>On topics 8 through 14</b>	<b>Given in class</b>
*	1.6 and selected topics from chapter 2 if time permits		Exercises TBA if applicable
*	<b>Final Exam</b>	<b>Covers Everything!</b>	<b>Date, Time, Location TBA</b>

**Questionnaire**

What is your major? \_\_\_\_\_

Why are you taking this class? \_\_\_\_\_

What is the highest math class you've taken? \_\_\_\_\_

Have you ever taken a mathematical proofs class before? \_\_\_\_\_

Rate your interest: 5 = math is my life and I'm so excited to be here, down to 1 = I don't really like math, but I'm just here to get a minor or satisfy some requirement. \_\_\_\_\_

Are there any dates during the summer for which you will not be able to take an exam/quiz due to religious reasons? If so, please state the date(s) and "occasion(s)" below.

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Any general feelings or concerns towards this course? (For example, are you: Scared? Excited? Curious? Indifferent? Based on your perceived ability in math, what grade are you expecting? etc)

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Are there any other relevant comments that you wish to add?

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