Math 3003W - Transition to Advanced Math Fall 2017

Instructor: Dr. David Leach
Location: 307 Boyd
Time: MWF 12:05-12:55
Office: 317 Boyd
Office Hours: See CourseDen
Phone: (678)-839-4127
Email: cleach@westga.edu
Textbook: *Mathematical Proofs: A Transition to Advanced Mathematics*, 3rd Ed, by Chartrand, Polimeni, and Zhang.

Learning Outcomes: Upon successful completion of the course, the student will

1. have an understanding of symbolic logic and quantifiers, and be able to translate sentences from English statements into logical expressions and back.

2. be familiar with methods of proof, including direct proof, proof by induction, contradiction, and contrapositive.

3. know the basic concepts of naive set theory.

4. know the basic properties of functions and relations, including surjectivity, injectivity, bijectivity.

5. know the definition of cardinality, and be able to determine if a set is finite, countably infinite, or uncountably infinite.

6. be able to effectively communicate written mathematics.

Grading and Evaluation: Evaluation will be done by several means. There will be four one-hour tests worth 100 points each (*tentative* dates are Aug 30, Sep 27, Oct 30, and Nov 17), graded homework assignments and in-class quizzes which will be averaged into a score out of 100 points; and a final exam worth 150 points. Quizzes will be announced in class or by CourseDen or email at least 24 hours in advance. Your grade will be calculated by summing your three best test scores, your assignment/quiz average, and your final exam score, dividing by 5.5, and rounding to the nearest whole number. A letter grade will be assigned according to the following scale:

90-100: A   80-89: B   70-79: C   60-69: D   0-59: F

Make-ups: In order to take a make-up test or quiz you must have a valid, documented reason for missing it, and (except in extreme situations) take the make-up within two weekdays of returning to class.

Homework & Assignments: Howework problems will be assigned from each chapter that we cover. It will not be graded, but it is important that you complete it. We will also have several graded assignments throughout the semester. It is also important that you read the textbook. You should expect to spend at least six hours outside of class each week working on material for this class.

DSW Requirements: Since this is a DSW (Discipline Specific Writing) course in mathematics, the assignments will largely consist of writing proofs. At least one of the assignments will involve writing multiple drafts of a proof in order to improve its correctness as well as its clarity and presentation.

Late Assignments: Due to abuses in the past, I will only accept one unexcused late assignment from each student throughout the semester. Late assignments will be penalized 10% per class day; no assignment will be accepted more than two class days after the due date.

Other Course Policies: Other course policies, including information regarding students with disabilities and the UWG Honor Code can be found at `https://www.westga.edu/academics/assets/docs/Common_Language_for_Course_Syllabi.pdf`. You should read this at the beginning of each semester.

Important Dates:

Labor Day:	Sep 4
Last Day to Withdraw:	Sep 29
Fall Break:	Oct 5-6
Thanksgiving:	Nov 20-24
Final Exam:	Mon Dec 4 11:00-1:00