Meetings: 12:05 – 12:55 pm MWF in Boyd 306
Instructor: Dr. Xiaofeng Gu (xgu@westga.edu)
Office: Boyd 316; Phone: (678) 839-4143
Office Hours: MW 9-10am at MTC(Boyd 205), 10-11am; F 9-10am
Course Website: CourseDen

1 Course Description:
A transition course to advanced mathematics. Topics include logic, set theory, properties of integers and mathematical induction, relations, and functions.

2 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.

3 Evaluation
Homework and in-class quizzes: totally 21%.
Three tests: totally 54%.
Final Exam: 25%. The final exam is cumulative, and scheduled on Monday, December 10 at 11:00am-1:00pm.
Grades: Grades will be based on the following percentages.
90-100: A  80-89: B  70-79: C  60-69: D  0-59: F
4 Policies

Attendance and Responsibility: You are required to attend every class. If a class is missed, you are responsible for all materials and assignments. 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.

Equipment: Any cell phone is NOT allowed to use in class. Please silence your cell phone during the class.

Homework: Homework problems will be assigned from each chapter/section that we cover. Most of them will not be graded, but it is important that you complete it. We will also have several graded homework assignments throughout the semester. To get credits, your work must be clear, neat and in details.

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 policy: Every assignment must be turned in by the due date. Late assignments will be penalized 20% per class day; no assignment will be accepted more than two class days after the due date.

Make-ups: Make-up will be granted only for excused absences. Official documents are needed. The student is required to contact the instructor in advance to schedule the make-up, or inform the instructor by email or phone as soon as possible on the original date. Any make-up must be arranged within a week from the original date. No make-up for final exam.

University Policies and Academic Support: For important policy information, i.e., the UWG Honor Code, Email, and Credit Hour policies, as well as information on Academic Support, Online Courses and Campus Carry, etc, please review the Common Language for Course Syllabi: https://www.westga.edu/UWGSyllabusPolicies/ You should read this at the beginning of each semester.

5 Important Dates

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>August 15</td>
<td>classes begin</td>
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<tr>
<td>September 3</td>
<td>Labor Day Holiday (no classes)</td>
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<tr>
<td>October 4-5</td>
<td>Fall Break (no classes)</td>
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<tr>
<td>October 8</td>
<td>Last day to withdraw with a grade of W</td>
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<tr>
<td>November 19-23</td>
<td>Thanksgiving Holiday (no classes)</td>
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<tr>
<td>December 7</td>
<td>Last day of class</td>
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The instructor retains the right to modify this syllabus to better serve the course objectives.