Instructor: Dr. Wasin So, MH418, wasin.so@sjsu.edu, www.math.sjsu.edu/~so

Office hours: MW 13:00 – 13:30 and by appointment via email.

Catalog Description: The purpose of this course is to develop students’ mathematical maturity and skill with proofs. Material covered will include logic; set theory including functions, relations, and cardinality; the real number system, including the completeness axiom; and selected topics.

Prerequisite: Math 31 and Math 42 (with a grade of C- or better) or instructor consent.


Learning Objectives: To learn what constitutes a valid argument and to be able to utilize a variety of proof styles to give valid proofs and disproofs. Therefore, after the successful completion of the course, a student should be able to

• determine whether an argument is valid or not
• utilize and appreciate the role of definitions in giving proofs
• give direct proofs and proofs by contrapositive
• give proofs by contradiction
• give proofs by induction, including strong induction
• prove or disprove statements involving quantifiers

Homework: Students are expected to spend 9 hours per week to study and try as many exercises in the text as possible. Students are also required to finish some homeworks (see homework handout) in a timely manner, and these homeworks will be counted toward the course grade.

Exams: There are 2 tests and 1 final:

<table>
<thead>
<tr>
<th>Test</th>
<th>Date</th>
<th>Chapters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>10/17/2018 (Wed)</td>
<td>chapters 0 – 6</td>
</tr>
<tr>
<td>Test 2</td>
<td>12/5/2018 (Wed)</td>
<td>chapters 7 – 11 &amp; 14</td>
</tr>
<tr>
<td>Final</td>
<td>12/12/2018 (Wed)</td>
<td>12:15–14:30</td>
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All exams are closed book and closed notes, but graphing calculator is allowed. Each test has five questions and lasts for one hour and 15 minutes. The Final has ten questions and lasts for two hours and 15 minutes. NO MAKE-UP IS AVAILABLE (don’t even think about it).

Course Grade: All homeworks weigh 20%, the two tests weigh 40% together, and the Final weighs 40%. Your letter grade will be based on the following scale:

\[
100 \geq A+ \geq 94 > A \geq 90 > A- \geq 87, \\
87 > B+ \geq 84 > B \geq 80 > B- \geq 77, \\
77 > C+ \geq 74 > C \geq 70 > C- \geq 67, \\
67 > D+ \geq 64 > D \geq 60 > D- \geq 57, \\
57 > F.
\]
Attendance: Attendance is strongly encouraged and actually will be recorded. However it will not directly affect your course grade. Students are responsible for all the lecture notes and handouts in case of missing class.

Academic Integrity: Your own commitment to learning, as evidenced by your enrollment at San Jose State University, and the University’s Academic Integrity Policy requires you to be honest in all your academic course work. Faculty are required to report all infractions to the Office of Judicial Affairs. The policy on academic integrity can be found at http://www2.sjsu.edu/senate/S04-12.pdf.

Americans with Disabilities Act: If you need course adaptations or accommodations because of a disability, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities register with Disability Resource Center (http://www.drc.sjsu.edu/) to establish a record of their disability.