MNF 3202 Sets and Logic - Spring 2017

Time: MWF 6th period (12:50-1:40 pm)  Instructor: Jean A. Larson,
Place: 219 Little Hall  Office: 406 Little Hall
Prerequisite: Calculus 2  Email: jal at ufl dot edu
Web: http://people.clas.ufl.edu/jal/mhf3202/  Phone: (352) 294-2316

Tentative Office hours: Monday 7th, Wednesday 4th, Friday 2nd, and by appointment.


Course Objectives: MHF 3202 is a bridge course, that is, one designed to help you
make the transition from computational mathematics classes like calculus and differential
equations into abstract mathematics classes like algebra and analysis. In particular, your goal
is to obtain a foundational understanding of standard mathematical notation, to construct
logical arguments using standard proof techniques; to detect errors in reasoning in your own
arguments and those of others; and to construct illustrative examples and counter-examples.

Class Format and Attendance: The class will be a mixture of lecture, group work,
discussion, and dialog between the instructor and the class. You develop the proof skills by
writing your own proofs, so be prepared to commit the necessary time to do the homework.
You are expected to attend class regularly (attendance is taken every day), to be prepared to
answer questions on the reading, and to participate in class discussions and group work. If
you miss class, you are responsible for finding out about homework and/or announcements
made during the class. Requirements for make-up exams, assignments, and other work in
this class are consistent with university policies and can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Academic Honesty: The course will be conducted in accordance with the University
honor code and academic honesty policy, which can be found on the following web site:

Assessment: After each of the first three exams, the grades given for the recent group
work, homework, and quizzes will be totaled and scaled to 8.5, 8.5, 8 points for work grades,
usually after dropping the lowest of one type of assignment, accounting for 25% of the total
grade.

There will be four 25-point exams, three during the term and one during the final exam
period. The lowest score of the four exams will be dropped, giving a maximal possible exam
score of 75 points for exams, accounting for 75% of the total grade.

The exams will be based upon homework problems, discussion questions, group work, quizzes
and the reading. The tests will be cumulative with a focus on recent material. Written
medical documentation is required for makeup exams. No other makeups will be given
without prior agreement with the instructor.

Grades will be assigned according to the scale below:

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<thead>
<tr>
<th>Grade</th>
<th>A</th>
<th>A−</th>
<th>B+</th>
<th>B</th>
<th>B−</th>
<th>C+</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
<td>Percent</td>
<td>90-100%</td>
<td>87.0-89.99%</td>
<td>84.0-86.99%</td>
<td>80.0-83.99%</td>
<td>77.0-79.99%</td>
<td>74.0-76.99%</td>
<td>70.0-73.99%</td>
<td>60.69-69.99%</td>
<td>0-59.99%</td>
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See the current UF policy on assigning grade points:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Classroom Accommodation: Students with disabilities requesting classroom accommo-
dation should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc)
by proving appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

**Tentative Weekly Schedule:**

1. Sentential logic: 1.1-1.3
2. Set operations, biconditionals, quantifiers : 1.4-1.5, 2.1-2.2
3. Logical equivalence, more set operations, basic proofs: 2.3, 3.1-2
4. Proof basics: 3.1-3.3
5. More proofs 3.4-3.5, and Exam 1 (February 3)
7. More on relations, equivalence relations 4.4, 4.6
9. More induction, functions, Exam 2 (March 3); 6.1-3, 5.1
10. More on functions: 5.1-5.3
11. Inverses, strong induction: 5.3; 6.4
12. Introduction to infinity: 7.1-7.2
13. Uncountable sets: 7.2
14. More uncountable sets, Cantor-Schröder-Bernstein Theorem 7.2-7.3
15. Cantor-Schröder-Bernstein Theorem, Review for Exam 3: 7.3
16. Exam 3 (April 17)
17. Exam 4 (time of final in schedule of classes)

**Course Evaluations:** Students are expected to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.