

Sets and Logic

MHF 3202

3 Credit Hours

Summer A 2022

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Class Meeting Times: MTWRF 11am-12:15pm in LIT 205
Office Hours: MWF 10-11am in LIT 371

Prerequisites	A UF math course at the 2000 level or above with a minimum grade of C.
Course Description	Examples of sets, operations on sets, set algebra, Venn diagrams, truth tables, tautologies, applications to mathematical arguments and mathematical induction. Taking one, but not both, of MAS 3300 or MHF 3202 is required of mathematics majors. MHF 3202 can also be very useful for prospective and in-service secondary and middle school teachers.
Course Goals	This course serves as a bridge to higher level, proof based mathematics courses. After completing the course, students should be comfortable with proof writing and mathematical reasoning in an abstract setting.
Required Materials	The textbook for this course will be “The Book of Proof” by R. Hammack, third edition. A free copy of this book can be downloaded at this website: https://www.people.vcu.edu/~rhammack/BookOfProof/ . No other materials are required for this course.
E-Learning Canvas:	E-learning canvas, a UF course management system, is located at elearning.ufl.edu . Use your Gatorlink username and password to login. All course information including your grade, course homepage, syllabus, office hours, mail tool, discussion forum, free help information, etc. can be accessed from this site. You are responsible for verifying that your grades are accurate. You have one week after a score has been posted to contact your instructor if you believe there has been a recording error. There is no grade dispute at the end of the semester.
E-mail	All communication between student and instructor and between students should be respectful and professional. All official class communications will be sent only to the ufl.edu addresses. Students are responsible for acquiring, checking their email accounts regularly, and any class information sent to their ufl.edu account. Please be sure to sign your name to your e-mails.
Lectures	Lectures will take place in person every weekday (unless specified otherwise on the course schedule) from 11am-12:15pm. Attendance during lecture is highly recommended, as part of your grade will be based on class participation. Before each lecture, you should read over the relevant sections of the textbook for that class period (these sections are listed in the course schedule).

Class Participation	<p>During most lectures, you will be asked to work on a few practice problems throughout the class period. You are welcome to work with others (including the instructor) on these assignments and use outside resources. You will then submit these problems at the end of class. Your grade on these assignments will be based on effort - you will receive full credit if the instructor perceives that you gave the problems an honest try. Your lowest three of these grades will be dropped.</p>
Quizzes	<p>On each Friday that doesn't have an exam, there will be a quiz. This quiz should take about 30 minutes to complete, and will be based on the material covered the past week. For these assignments, you must work on your own without outside resources. The format of these quizzes will be all short answer/free response questions.</p>
Exams	<p>There will be one midterm exam and one (non-cumulative) final exam:</p> <p>Midterm: 5/27</p> <p>Final: 6/17</p> <p>These exams will take place in class during the normal class meeting time. The format will be all short answer/free response questions, and each exam will cover the chapters listed at the end of the syllabus.</p>
Homework	<p>There will be regular written homework assignments in this course. After each lecture, complete the assigned problems for the relevant sections (the sections covered in that day's class), and turn these in two class periods later in the beginning of class. For example, on May 9th, we will cover section 1.1 in class. After class, complete the textbook problems listed for section 1.1 (listed at the end of the syllabus), and turn them in by May 11th, two class periods after May 9th.</p> <p>Since one of the primary goals of this course is the development of your mathematical presentation skills, please present your work in a clean and organized way when writing up your assignments. Your assignments will be graded on completion, organization, and accuracy. Your lowest three homework scores will not count towards your final grade in the course.</p>
Make-up Policy	<p>All make-up work must be arranged with your instructor.</p> <p>Make-up Exams and Quizzes If you are participating in a UF sponsored event or religious observance, you may make up an exam only if you make arrangements with your instructor at least ONE WEEK PRIOR to the event. You must present documentation of a UF sponsored event. If illness or other extenuating circumstances cause you to miss an exam, contact your instructor (no later than 24 hours after the exam) by email. Then, as soon as possible after you return to campus, bring the appropriate documentation to them in Little Hall during office hours. You will be allowed to sign up to take a makeup exam later in the semester.</p> <p>Make-up Homework and Class Participation: There are no make-ups, but if you are unable to complete a homework assignment for a reason mentioned above, it will not count towards your grade and will not consume one of your homework/class participation drops.</p>
Grading	<p>Homework: 20%</p> <p>Class Participation: 20%</p> <p>Quizzes: 20%</p>

Midterm Exam: 20%

Final Exam: 20%

Your grade will be calculated according to the scale below. Scores within 0.5% of the next cutoff will round up.

Grading Scale	90-100 A	87-90 A-	84-87 B+	80-84 B
	77-80 B-	74-77 C+	70-74 C	67-70 C-*
	64-67 D+	60-64 D	57-60 D-	0-57 E

***Note** A grade of C- DOES NOT give Gordon Rule or General Education credit!

For those take the S-U option: 70-100 S 0-70 U

Approval of the S-U option must be obtained from your instructor. The deadline for filing an application with the Registrar and further restrictions on the S-U option are given in the Undergraduate Catalog.

For a complete explanation of current policies for assigning grade points, refer to the UF undergraduate catalog:

catalog.ufl.edu/ugrad/regulations/info/grades.aspx

NOTE: We will not review disputed points at the end of the semester. All grade concerns must be settled within one week of the return of the paper.

Students with Learning Disabilities

Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center (DRC), www.dso.ufl.edu/drc/. That office will provide a documentation letter via email to your instructor. This must be done as early as possible in the semester, **at least one week before the first exam**, so there is adequate time to make proper accommodations.

Incomplete

Students who are currently passing a course but are unable to complete the course because of illness or emergency may be granted an incomplete grade of I which will allow the student to complete the course within the first two weeks of the following semester. See the policy on <http://www.math.ufl.edu/fac/incompletes.html>. If you meet the criteria, you must see your instructor before finals week to be considered for an I. An I only allows you to make up your incomplete work, not redo your work.

Academic Honesty Guidelines

All students are required to abide by the Academic Honesty Guidelines which have been accepted by the University. The academic community of students and faculty at the University of Florida strives to develop, sustain and protect an environment of honesty, trust, and respect. Students are expected to pursue knowledge with integrity. Exhibiting honesty in academic pursuits and reporting violations of the Academic Honesty Guidelines will encourage others to act with integrity. Violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions in paragraph XIV of the Student Code of Conduct. The conduct set forth hereinafter constitutes a violation of the Academic Honesty Guidelines (University of Florida Rule 6C1-4.017).

The Mathematics Department expects you to follow the Student Honor Code. We are bound by university policy to report any instance of suspected cheating to the proper authorities. You may find the Student Honor Code and read more about student rights and responsibilities concerning academic honesty at the link www.dso.ufl.edu/sccr/.

Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

COVID 19

In response to COVID 19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones:

- 1) If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID 19 virus. Visit one.ufl.edu for screening/testing and vaccination appointments.
- 2) If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.
- 3) Course materials will be provided to you with an excused absence, and you will be given a reasonable amount of time to make up work.

Homework Problems

Due Wednesday May 11th: Section 1.1 - 1-15 odd, 29-43 odd

Due Thursday May 12th: Section 1.2 - 4-11 odd, Section 1.3 - 1-7 odd, 10, 13, 15, Section 1.4 - 3, 5, 13, 15, 17

Due Friday, May 13th: Section 1.5 - 1-9 odd, Section 1.6 - 1, Section 1.7 - 1-9 odd

Due Monday, May 16th: Section 1.8 - 2, 3, 4, 5, 7, 9, 10, 13

Due Tuesday, May 17th: Section 2.1 - 1-11 odd

Due Wednesday, May 18th: Section 2.2 - 1-9, Section 2.3 - 1-11 odd, Section 2.4 - 1-5 odd

Due Thursday, May 19th: Section 2.5 - 1-11 odd, Section 2.6 - 1-13 odd, Section 2.7 - 1-9 odd

Due Friday, May 20th: Section 2.9 - 1-9 odd, Section 2.10 - 1-10 except 7

Due Monday, May 23rd: Chapter 4 - 1-7

Due Tuesday, May 24th: Chapter 4 - 8-13

Due Wednesday, May 25th: Chapter 4 - 14-20

Due Thursday, May 26th: Chapter 5 - 1-13 odd

Due Friday, May 27th: Chapter 6 - 1-11 odd

Due Thursday, June 2nd: Chapter 7 - 1-9 odd

Due Monday, June 6th: Chapter 8 - 1-7 odd, 13, 19, 22

Due Wednesday, June 8th: Chapter 9 - 1-19 odd

Due Thursday, June 9th: Chapter 10 - 1-8

Due Friday, June 10th: Chapter 10 - 9-21 odd

Due Monday, June 13th: Section 12.1 - 1, 6, 7, 9, Section 12.2 - 2, 4, 5, 11, 13

Due Tuesday, June 14th: Section 12.3 - 1, 3, Section 12.4 - 1-9 odd

Due Wednesday, June 15th: Section 12.5 - 1-9 odd, Section 12.6 - 1, 5-11 odd

Due Thursday, June 16th: Section 14.1 - 1-11 odd, Section 14.2 - 1-9 odd

Due Friday, June 17th: Section 14.3 - 3-9 odd, Section 14.4 - 1,5

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	5/9	5/10	5/11	5/12	5/13
	Intro, 1.1	1.2-1.4	1.5-1.7	1.8-1.10	2.1
					Quiz - Chapter 1
2	5/16	5/17	5/18	5/19	5/20
	2.2-2.4	2.5-2.8	2.9-2.12	4.1-4.2	4.3
					Quiz - Chapter 2
3	5/23	5/24	5/25	5/26	5/27
	4.4-5.1	5.2-5.3	6.1-6.4	Review	Exam 1
					Chapters 1,2,4-6
4	5/30	5/31	6/1	6/2	6/3
	No Class	Chapter 7	8.1-8.3	8.4	9.1
	Memorial Day				Quiz - Chapters 7,8
5	6/6	6/7	6/8	6/9	6/10
	9.2-9.3	10.1-10.2	10.3-10.5	12.1-12.2	12.3-12.4
					Quiz - Chapters 9,10
6	6/13	6/14	6/15	6/16	6/17
	12.5-12.6	14.1-14.2	14.3-14.4	Review	Final Exam
					Chapters 7-10,12,14