

## **Sets and Logic**

MHF 3202, Section: 12A3

**Class Periods:** MWF 4, 10:40—11:30

**Location:** Little 233

**Academic Term:** Fall 2022

### **Instructor:**

Douglas Cenzer

[cenzer@ufl.edu](mailto:cenzer@ufl.edu)

Office Hours: M7th F3d, or by appointment, Little Hall 310 and online

### **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. 3 credits

### **Course Pre-Requisites / Co-Requisites**

A UF math course at the 2000 level or above with a minimum grade of C.

### **Course Objectives**

Students who successfully complete the course will be able to read, write and present theorems and proofs.

### **Required Textbooks and Software**

Book of Proof, by Richard Hammack, free online at  
<https://www.people.vcu.edu/~rhammack/BookOfProof/>

### **Course Schedule (Tentative)**

Two Weeks:	Chapter 1, Sets
Two Weeks:	Chapter 2, Logic
One Week:	Chapter 3, Counting
Week 4, September 13--17:	Chapter 4, Direct Proof
Week 5, September 20--24:	Chapter 5, Contrapositive
Week 6, September 27--Oct. 1:	Chapter 6, Contradiction
Week 7, October 4—6	Chapter 7, Non-Conditional
Week 8, October 11--15:	Chapter 8, Proofs Involving Sets
Week 9, October 18--22:	Chapter 9, Disproof
Week 10, October 25--29:	Chapter 10, Induction
Week 11, November 1--5:	Chapter 11, Relations
Week 12, November 8--12:	Chapter 12, Functions
Week 13, November 15--19:	Chapter 13, Calculus
Week 14, November 23:	Chapter 14, Cardinality

### **Attendance Policy, Class Expectations, and Make-Up Policy**

Attendance will be credited with Daily Participation points from Classwork.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies which can be found at

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

### **Evaluation of Grades**

Daily Participation points are given for group classwork. There will be five take-home exams.

The best four scores will count towards the class grade.

Assignment	Total Points	Percentage of Final Grade
Daily Participation(40)		20%
Exams (4)	20 each	80%
		100%

### ***Grading Policy***

Percent	Grade	Grade Points
90.0 - 100.0	A	4.00
85.0 - 89.9	A-	3.67
80.0 - 84.9	B+	3.33
75.0 - 79.9	B	3.00
71.0 - 74.9	B-	2.67
67.0 - 70.9	C+	2.33
60.0 - 66.9	C	2.00
57.0 - 59.9	C-	1.67
54.0 - 56.9	D+	1.33
51.0 - 53.9	D	1.00
48.0 - 50.9	D-	0.67
0 - 49.9	E	0.00

More information on UF grading policy may be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### ***Students Requiring Accommodations***

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### ***Course Evaluation***

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### ***University Honesty Policy***

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### ***Software Use***

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as

appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

### ***Student Privacy***

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

### ***Campus Resources:***

#### *Health and Wellness*

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.

- 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](http://one.ufl.edu) for screening / testing and vaccination opportunities.
- 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.

#### **U Matter, We Care:**

If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.

**Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

#### **Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

#### *Academic Resources*

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu).  
<https://lss.at.ufl.edu/help.shtml>.

**Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<https://teachingcenter.ufl.edu/>.

**Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus:** [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).

**On-Line Students Complaints:** <http://www.distance.ufl.edu/student-complaint-process>.