

MHF 3202: Sets and Logic (3 credits)  
Summer B 2020

Class Time: MTWRF 11:00am - 12:15psm

Instructor: Dr. Caelan Wang  
Email: xwang2@ufl.edu  
Office: LIT 319  
Office hours: TBA via Zoom

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

**Course Description:** As an introduction to the formal language of mathematics. The goal is to learn how to read, understand and write your own rigorous and precise mathematical arguments. You may be familiar with most of the factual content discussed in the examples, but the novelty is the mathematical rigor and the skill of formal writing. 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.

**Topics covered:** Examples of sets, operations on sets, set algebra, Venn diagrams, truth tables, tautologies, applications to mathematical arguments and mathematical induction.

**Textbook:** The required textbook for this course (freely available online) is the third edition of [Book of Proof by Richard Hammack](#).

**Grading:** There are a total of 300 points for you to earn in this course, distributed as described in the following scheme.

Assignments	90 points	Reflective Questionnaires	20 points
Midterm Exam	65 points	Class Participation	25 points
Final Exam	100 points		

The points you've earned would be converted into a letter grade at the end of the semester using the following conversion table.

270-300 A	261-269.99 A-	252-260.99 B+	240-251.99 B
231-239.99 B-	222-230.99 C+	201-221.99 C	192-200.99 C-
180-191.99 D+	171-179.99 D	162-170.99 D-	0-161.99 E

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

For those take the S-U option: 201-300 S 0-200.99 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](http://catalog.ufl.edu/ugrad/regulations/info/grades.aspx)

**NOTE: The instructor 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.**

**Communication:** 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 email 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.

**Calculators:** Calculators are **NOT** permitted on exams and discussion assignments. Please avoid using a calculator on homework as it will not help you prepare for the exams.

**E-Learning Canvas:** E-learning canvas, a UF course management system, is located at [elearning.ufl.edu](http://elearning.ufl.edu). Use your Gatorlink username and password to login. All course information including your grade, course homepage, syllabus, office hours, test locations, 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.**

Please note: Important course information is clearly communicated in this syllabus and the Canvas course. Due to the volume of email received by the instructor I cannot reply to each request for this well publicized information. If you cannot find your answer in the resources above, there is also a **Discussion Forum** available in Canvas. Please use this to post questions and to supply answers to your fellow students.

**Class Participation:** Attendance in class via Zoom is highly recommended. There will be group discussions in each class. Students who come to class and participate in discussions are more likely to do well in the course. Participation will be worth a total of 25 points in your grade. For each day that you attend class and participate in the discussion, you will earn 1 point, up to a maximum of 25 points. Attendance is worth 0.5 point out of the 1 point. If you are more than five minutes late to class, you will not earn this 0.5 point. Participating in the discussion would be worth another 0.5 point out of the 1 point for each day. You can only earn class participation credit on the days we have class - the exam days do NOT count.

**Assignments:** There will be a total of 6 weekly assignments, which will be submitted electronically via Canvas. Assignments are due at 11:59pm on Thursdays unless otherwise noted. Late assignments will NOT be accepted. Each assignment is worth an equal amount in your final grade. Assignments are to be attempted individually. Collaboration at the level of discussing the assignment problems with your classmates is allowed, but you must submit your individually written solutions.

**Midterm Exam Time: Friday, July 24, 11am - 12:15pm** on Canvas

**Final Exam Time: Friday, August 14, 11am - 12:15pm** on Canvas

**Missed Exam Policy:** If you are participating in a UF sponsored event or religious obser-

vance, 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 him in Little Hall during office hours. You will be allowed to sign up to take a makeup exam at the end of the semester, with date and time TBD.**

**Make-up Assignments:** There are no make-ups.

**Make-up Class Participation Points:** There are no make-ups.

**Incomplete Grade:** 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.

**Course Schedule:** A tentative schedule of this course is at the end of the syllabus. The schedule is subject to change depending on how the semester turns out.

**Wellbeing:** If you or anyone you know experiences any academic stress, difficult life events, or feelings like anxiety or depression, I strongly encourage you to seek support. The [Counseling and Wellness Center](#) provides a list of on-campus and local resources to support various populations.

**Diversity and Inclusivity:** It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength, and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In particular, I will gladly honor your request to address you by an alternate/ preferred name or gender pronoun. Please advise me of this preference early in the semester so I may make appropriate changes to our records.

**Students with Accessibility Needs:** Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center (DRC), [www.dso.ufl.edu/drc/](http://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.

**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/scsr/](http://www.dso.ufl.edu/scsr/).

In addition, we remind you that lectures given in this class are the property of the University/faculty member and may not be taped without prior permission from the instructor and may not be used for any commercial purpose. Students found to be in violation may be subject to discipline under the Student Conduct Code.

**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/>.

**Note: Information in this syllabus is subject to change. Any changes will be clearly announced in class or through e-mail.**

# JULY 2020

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<i>6</i> Section 1.1 Section 1.3	<i>7</i> Section 1.5 Section 1.6 Section 1.7 Section 1.8	<i>8</i> Section 2.1 Section 2.2	<i>9</i> Section 2.3 Section 2.4	<i>10</i> Section 2.5 Section 2.6
<i>13</i> Section 2.7 Section 2.8	<i>14</i> Section 2.9 Section 2.10	<i>15</i> Section 4.1 Section 4.2 Section 4.3	<i>16</i> Section 4.4 Section 4.5	<i>17</i> Section 5.1
<i>20</i> Section 5.2 Section 5.3	<i>21</i> Section 6.1	<i>22</i> Section 6.2 Section 6.3	<i>23</i> Review	<i>24</i> Midterm
<i>27</i> Section 7.1 Section 7.2	<i>28</i> Section 7.3 Section 7.4	<i>29</i> Section 8.1 Section 8.2	<i>30</i> Section 8.3	<i>31</i> Section 9.1 Section 9.2

# AUGUST 2020

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<i>3</i> Section 9.3	<i>4</i> Section 10.1 Section 10.2	<i>5</i> Section 11.1 Section 11.2	<i>6</i> Section 11.3 Section 11.4	<i>7</i> Section 11.5 Section 11.6
<i>10</i> Section 12.1 Section 12.2	<i>11</i> Section 12.3 Section 12.4	<i>12</i> Section 12.5 Section 12.6	<i>13</i> Review	<i>14</i> Final