Math 3425.001 - Foundations of Mathematics, Spring 2022
MoWeFr 9:05 - 10:20 am (Fully Face-to-Face Format)
RBN 4024

Instructor:	Dr. Maddie Dawsey
Office:	RBN 4048
Office Hours:	TuTh 9:00 - 10:30 am (or by appointment)
Email:	mdawsey@uttyler.edu (I will NOT receive emails to mdawsey@patriots.uttyler.edu)
Website:	All course materials will be posted on Canvas

Textbook
Book of Proof, Third edition, by Richard Hammack. A free PDF of the book can be downloaded at `https://www.people.vcu.edu/~rhammack/BookOfProof/`

Course Description
Study of elementary logic, intermediate set theory, relations, functions, and countable number systems.

Course Prerequisites
A grade of C or better in Calculus II (Math 2414 or equivalent).

Student Learning Outcomes
Upon completion of this course, students should be able to do the following:

- Write complete, correct, and coherent proofs

- Understand and employ fundamental mathematical concepts such as logic, techniques of proof, set theory, and mathematical induction

Important Dates

January 17th	MLK Day - no class
January 24th	Census Date
March 7th - 12th	Spring Break
March 28th	Withdrawal Deadline
April 29th	Final Exam

Grading Scheme
All grades will be posted on Canvas. A final course grade of 90% is guaranteed to be at least an A, a final course grade of 80% is guaranteed to be at least a B, a final course grade of 70% is guaranteed to be at least a C, and a final course grade of 60% is guaranteed to be at least a D. All grades below D will be F. The only exceptions are: you must have a passing homework average to pass the course, and your course grade cannot exceed your final exam score by more than one letter grade. Your final letter grade will be determined by the following grading scheme:

Homework	**12%**
Participation	**3%**
Midterm Exams	**20% each**
Final Exam	**25%**

Attendance (Fully Face-to-Face Format)
Students are expected to attend every lecture in person and are responsible for any announcements made during lecture. The course moves quickly, and any absence will be detrimental to the student's performance. If a student tests positive for Covid-19 or has any other contagious illness, then:

- the student must keep up in the course on their own for the duration of their quarantine
- the student may request a Zoom office hour from the professor
- the student must ask for copies of the lecture notes from the professor or a classmate
- the student is responsible for turning in any homework due during their quarantine period (by email)
- the student is responsible for taking any exams scheduled during their quarantine period (over Zoom)

Homework

Homework will be assigned at the end of each class period. At the beginning of class each Friday, the homework assigned from the previous three class periods will be turned in. The two lowest homework grades will be dropped at the end of the semester. Late homework will not be accepted under any circumstance.

Participation

A crucial part of proof writing is communicating a convincing argument to others. We will practice this skill by having frequent student presentations of proofs and other homework solutions. I will keep a tally of the number of times each student presents high quality work and makes useful comments during other students' presentations. In order to do well in this category, students should make an effort to attend all classes and to finish assigned homework problems before the next class meeting.

Exams

There will be three midterm exams. The tentative exam schedule is the following:

Exam 1	**Wednesday, February 9th**
Exam 2	**Friday, March 4th**
Exam 3	**Friday, April 8th**

Make-up exams for documented absences that are required as part of a UT Tyler obligation (e.g. athletes participating in an event, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification and documentation are required. Other make-ups will be granted only in extreme cases and at the sole discretion of the instructor.

Final Exam

The final exam will be Friday, April 29th from 8:00 - 10:00 am in the usual classroom and will be cumulative.

Technology

Students will be required to have a device capable of internet access and access to Canvas. The use of calculators and other electronic devices, including cell phones, is not permitted during exams.

Academic Integrity

Your work must be your own. Violations will be processed according to the established guidelines of the department, college, and university. Violations of academic integrity include but are not limited to cheating, fabrication, and plagiarizing. A range of academic sanctions may be taken against a student who engages in academic dishonesty. Below are ideas related to academic integrity.

Resources you are encouraged to utilize in this course include the textbook and unassigned problems, notes from class, assigned homework problems, your classmates, the Math Learning Center, and your professor.

Using the internet to unethically acquire homework solutions will be considered a violation of academic integrity and processed accordingly. Similarly, copying answers from other students' assignments, past or present, is a violation.

University Policies

For university policies concerning Students' Rights and Responsibilities, Grade Replacement/Forgiveness, State-Mandated Course Drop Policy, Disability Services, Student Absence due to Religious Observance, Student Absence for University-Sponsored Events and Activities, Campus Carry, Social Security and FERPA Statement, please see https://www.uttyler.edu/academicaffairs/files/syllabuspolicy.pdf