

Syllabus: MATH 3300-001, INTRODUCTION TO PROOFS

January 21, 2015

Instructor: Dr. Gornet **Office:** Pickard 419 (PKH 419)

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Office Phone: (817)272-1322 (no answering device: Math Office: 272-3261)

Office Hours: Tu/Th 8am (ish) - 4pm (ish) except teaching: 9:30-11, 12:30-2, labs 11-12, 2-3; or by e-appt

Instructor Website: <http://wweb.uta.edu/faculty/rgornet/>

Section Information: MATH 3300, Introduction to Proofs, Section 001

Time and Place of Class Meetings: TuTh, 9:30a–10:50a, Room PKH 107

Electronic Communication: UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Students are expected to check their official e-mail account on a frequent and consistent basis to stay current with University communications. The university recommends checking e-mail daily in recognition that certain communications may be time-critical. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Course Content and Prerequisite: Techniques for constructing proofs for various propositions. The propositions chosen exhibit properties of functions, relations, sets, cardinality, and other ideas in mathematics. An axiomatic approach to some areas in mathematics. Oral presentations of proofs are required. Prerequisite: Math major or math intended major. B or better in MATH 1426 or HONR-SC 1426; OR C or better in MATH 2425 or HONR-SC 2425.

Student Learning Outcomes: Upon completion of MATH 3300, students will be able to determine whether statements are true or false using truth tables. They will be able to determine the logical equivalence of two statements using a truth table. Students will be able to construct correct mathematical arguments that prove true statements involving sets and functions. Students will be able to create examples or counter-examples and apply them appropriately to prove or disprove statements involving sets and functions.

Required Textbook, Supplies, and Electronic Access: *Foundations of Mathematics* by Thomas Q. Sibley (Wiley)

Description of major assignments and expectations: There will be two in-class exams during the semester, a comprehensive final exam, weekly proof and definition quizzes, and weekly homework assignments. All students will be expected to present homework and proofs on the board to the entire class as a significant component of their grade. (The more frequent the assignments, the shorter they will be.)

Attendance: Attendance is required. You are responsible for any and all announcements made in class. You are responsible for any material missed during class. Attendance is not directly factored into the grade, but quizzes are given at the beginning of class.

Grading: The Grading Scale is 90-100 A ; 80-89 B ; 70-79 C ; 60-69 D ; 0-59 F.

In-Class Exam 1: Thursday 19 March 2015
In-Class Exam 2: Tuesday 21 April 2015
Final Exam: Thursday 14 May 2015; 8a–10:30a
Exams and Daily Quizzes: 60%
Oral Presentations & Weekly Homework: 20%
Final Exam: 20%

Quizzes, Midterms and Finals: Exams will be require students to state definitions and theorems, apply theorems, study examples, prove original theorems.

Expectations for Out-of-Class Study: Between lectures, you are expected to review your notes with the intent of understanding all mathematical statements, logical processes, proofs, and theorems. You are expected to thoroughly read the appropriate section(s) in the book, understand all relevant examples in the book, and complete all oral and written homework problems assigned for the section. You will be expected to develop your rigorous proof skills, with respect to both reading and creating. This is probably the most abstract undergraduate course you have taken so far, but it is a preparation for even more abstract courses. You will not be able to earn a Bachelor's Degree in Mathematics without learning the skills taught in this course. I anticipate that a student passing this course with a 'C' will spend at least 9 hours each week on MATH 3300-001 outside the classroom.

Exam and Quiz Make-up Policy: If you have a conflict with a quiz, exam, or the final exam, you must contact Dr. Gornet and provide supporting documentation by the census date, Wednesday, 4 February 2015

Exam and Quiz Calculator Policy: You won't need a calculator, ever. You might use the web to look at pretty graphs and pictures

Exam Picture ID Policy: You will be asked to present a UTA picture ID at all exams. Bring your UTA picture ID to all exams.

Exit Strategy: Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is just outside PKH 107. During inclement weather, proceed to a storm shelter (many are marked on first floor). When exiting the building during an emergency, one should never take an elevator but should use stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Course Schedule: We will cover the following sections from the text.

Test 1: (tentative) Chapter 1: Sections 1,2,3,4,5,6; Chapter 2: Sections 1,2,3,4,5
Test 2: (tentative) Chapter 3: Sections 1,2,3; Chapter 4: Sections 1,2
Final Exam: All of the above sections.

“As instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course. -Ruth Gornet”

Important Dates (2015):

Tue, 20 Jan: First Day of Classes
Wed, 4 Feb: Deadline for makeup exam requests for all exams
Wed, 4 Feb: Deadline for all Disability Accommodation Requests
Wed, 4 Feb: Census Date
Mon 9 March - Fri 14 March: Spring Break
Thu, 19 March: MIDTERM 1
Fri, 3 April, 4pm: LAST DAY TO DROP A COURSE
Tue, 21 April: MIDTERM 2
Fri, 8 May: Last day of classes
Thu, 14 May, 8am-10:30am, FINAL EXAM,

Emergency Phone Numbers: In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. For non-emergencies contact the UTA PD at 817-272-3381.

Drop Policy: Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising. Drops can continue through a point two-thirds of the way through the term or session. The last day this semester to drop a course is **Friday, 3 April 2015 at 4pm**. Any student who drops the course on or before this date will receive a W. **Students must consult with their major advisor to drop a course.** It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not automatically be dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao>).

Americans with Disabilities Act: The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the Americans with Disabilities Act (ADA). All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor **in a timely manner** with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. This **must be done by the Census Date, 4 February 2015**. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability or by calling the Office for Students with Disabilities at (817)272-3364.

Title IX: The University of Texas at Arlington is committed to upholding U.S. Federal Law "Title IX" such that no member of the UT Arlington community shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity. For more information, visit www.uta.edu/titleIX.

Academic Integrity: All students enrolled in this course are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents Rule 50101, Section 2.2, suspected violations of the university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

Student Support Services: UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at www.uta.edu/resources.

Student Disruption: The University reserves the right to impose disciplinary action for an infraction of University policies. For example, engagement in conduct, alone or with others, intended to obstruct, disrupt, or interfere with, or which in fact obstructs, disrupts, or interferes with, any function or activity sponsored, authorized by or participated in by the University.

Cell Phone/Laptop Use: Cell phones are not allowed during class time; the only exception is those who are the primary contact for a child in daycare/school. If this is the case, notify Dr. Gornet by email by the census date. If you need to check your messages, you must do so on your own time, not class time. Using a laptop during class is a privilege, not a right. This privilege will be revoked for any students using the laptop for purposes other than classwork.

Grade Exclusion and Grade Replacement Policies: These policies are described in detail in the University catalog and can also be found online. Further questions should be directed to your academic advisor and not the instructor of this course.

Drop for Non-Payment of Tuition: If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

Student Feedback Survey: At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>

Final Review Week: A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems, or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are NOT required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.