

Class Meetings: Tuesdays and Thursdays, 1420-1540.

Office Hours: I will be available at my office (**Lucas 200K**) 1510-1550 on Mondays and Wednesdays, 1330-1420 on Tuesdays and Thursdays. You do not need an appointment to attend. If you cannot meet with me during these times, please speak with me or email me to make an appointment. Also feel free to email me with your questions, and I will try to respond in a timely fashion.

Textbook: none (**All required materials provided by instructor**)

Prerequisites: Grade of C or better in MATH 2413 or 3313. Prepares for: MATH 3322

Catalog Description: An introduction to mathematical logic and the language and nature of proofs via an introduction to combinatorial mathematics and finite mathematics required in the study of computer science. Topics include elementary set theory, relations and functions, combinatorics, and introduction to graph theory.

MATH3311 Learning Outcomes: When you have successfully completed this course, you will

- (1) construct valid arguments, using both direct and indirect arguments in constructing proofs, and verify generalizations by mathematical induction.
- (2) employ recursive thinking.
- (3) recognize, verify, and apply various properties of sets, functions, and relations.
- (4) recognize, verify, and apply various properties of graphs and trees.
- (5) employ a variety of representations for functions, relations, graphs, and trees.
- (6) define, apply, and explain algorithms.
- (7) enumerate using permutations, combinations and other techniques, and to use these concepts to solve applications in mathematics and computer science.

Course Overview: In this course, I will introduce various topics of study, and we will discuss them. Then, you will explore them and practice working with them in more depth in assignments outside of class. A significant portion of our class time will be devoted to student presentations of this practice, so that we may learn from and better understand your thinking, collectively moving toward more effective methods of solving problems.

Student presentations are an important part of our learning process in mathematics, and dedicated preparation in your assignments is essential to your success. Each week, students will give presentations based on the assignments. **Everybody must present** some of their work during the semester; **otherwise, you forfeit that portion of your grade.**

You will have **60-minute exams in class** over the course of the semester and a comprehensive **final exam Tuesday, December 12**. Since the final is comprehensive, it will also be used to replace your lowest in-class exam grade (if you have not missed any). You will not be penalized if your score on the final is lower than each of your in-class exams; the final only counts twice if this is to your benefit.

Grading Policy: Students with an average of 90% or greater will be awarded an A, 80% for a B, 70% for a C, 60% for a D, and an F for those with averages less than 60%. All assignments are due at the time class is designated to begin on the due date. No points will be earned for late work, but **all assignments must be completed in order to pass**. Grades will be calculated in the following manner.

- Assignments/Quizzes/Presentations/Attendance/Other (40%)
- Exams (60%)

Attendance: All students are expected to attend each class meeting. If you must miss a class for any reason, you are responsible for any material discussed during that session. **No make-up exams** will be given unless there are extraordinary circumstances, as the final gives students the opportunity to be tested on the material and replace a missed exam. If, for some reason, you miss multiple exams, a make-up will only be given in the event that each absence is determined to be excusable. It is essential that you notify me in advance if you must miss an exam, *especially* if you have already missed one previously. Failure to do so will result in a score of 0 for the exam.

Other: You do not need to ask permission to leave class for personal reasons, just do your best to avoid causing any disruption on your way out. **No computers, cell phones, or calculators are permitted** unless otherwise indicated; furthermore, use during quizzes or exams constitutes academic dishonesty unless otherwise specified. If there is an exam being administered, no student may begin testing after another student has turned in the exam, and you must turn in your exam before leaving or you will receive a score of 0.

Changes: While I have made sincere efforts to ensure that this syllabus is correct, changes may be required. Any substantive changes will be announced during a regularly scheduled class. If you find an error or omission, please advise me at once so that the other members of the class may be notified.

**LAMAR UNIVERSITY
DEPARTMENT OF MATHEMATICS
COLLEGE OF ARTS & SCIENCES
IMPORTANT INFORMATION FOR STUDENTS
FALL 2017**

Lamar University expressly prohibits intimidation and harassment of students, faculty, staff, or applicants.

<http://students.lamar.edu/academic-support/code-of-conduct.html>

Drop Policy: Please make note of the three dates indicated in this drop policy. Any drop will be your responsibility; I will not drop a student from the course.

September 20: (Census Date-Six Drop Rule does not apply) A student may drop or withdraw without consulting with the instructor. The Six Drop Rule does not apply to a drop before 1700.

October 6: (Six Drop Rule applies) A student may drop or withdraw from the course without academic penalty and receive a Q, however, the Six Drop Rule applies. The student will consult with the instructor and the Records Office to initiate a drop.

November 10: (Six Drop Rule applies) Last day to drop or withdraw with academic penalty; the student must be passing the course at the time of the requested drop in order to receive a Q. The drop form, including all required signatures, must arrive in the Records Office by no later than 1600. No drop is allowed after this date except in extreme extenuating circumstances. Any “late drop” must be approved by the instructor, department chair, college dean, and provost.

Academic Integrity: Students are expected to maintain complete honesty and integrity in their academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Students are specifically warned against all forms of cheating and plagiarism. The *Lamar University Student Handbook* clearly reads: “Any student found guilty of academic dishonesty in any phase of academic work will be subjected to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, plagiarism, collusion, and the abuse of source materials.” One aspect of the *Handbook’s* definition of cheating includes “purchasing or otherwise acquiring and submitting as one’s own work any research paper or other writing assignment prepared by an individual or firm.” Plagiarism is defined as “the appropriation and the unacknowledged incorporation of another’s work or ideas into ones own and submitted for credit.” Faculty members in the College of Arts and Sciences investigate all cases of suspected plagiarism. Any student who is found cheating in this course will receive a course grade of F. See <http://students.lamar.edu/student-handbook.html>.

Accommodations for Students with Disabilities: Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at (409) 880-8347 or drc@lamar.edu to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations.

If you are registered with DRC and having a current letter requesting reasonable accommodations, we encourage you to meet with me as early in the term as possible to review how the accommodations will be applied in the course. The student will be asked to provide an accommodation memorandum from the DRC. Additional information can be found at <http://www.lamar.edu/disability-resource-center/>.

Incomplete Status: The grade of “I” may be given when any requirement of the course, including the final examination, is not completed. Arrangements to complete deficiencies in a course should be made with the instructor prior to the end of the semester or term. Incomplete work must be finished during the next long semester or the Records Office will change the “I” to the grade of “F.” While the extension may be granted by the instructor with the approval of his/her Department Chair and Academic Dean, once the “I” is changed to an “F” it cannot be changed back to an “I.” In this case, either a “change of grade” procedure must be initiated or the course must then be repeated if credit is desired. The instructor may record the grade of “F” for a student who is absent from the final examinations and is not passing the course.

Campus Closure: In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University’s website’s homepage (<http://www.lamar.edu>) for instructions about continuing courses remotely.

Course Evaluations: You will have an opportunity to evaluate all aspects of this course in a formal process to be completed online near the end of the term. You will receive an email reminder through your LU account.

Emergency Procedures: Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at: <http://www.lamar.edu/about-lu/administration/risk-management/index.html>. Following are procedures for the first two:

Severe Weather:

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.

- Stay in the center of the room, away from exterior walls, windows, and doors.

Violence/Active Shooter (CADD):

- CALL** - 8-3-1-1 from a campus phone (880-8311 from a cell phone). Note: Calling 9-1-1 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- AVOID** - If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- DENY** - Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- DEFEND** - Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

Active Shooter: Members of the Lamar University Police Department (LUPD) are trained and equipped to respond to an emergency incident of this nature. The police will evaluate the situation and determine the best course of action to take for the safety of the Lamar community. LUPD will be responsible for all tactical operations and will call on area law enforcement agencies, firerescue, and EMS for assistance, as needed. The Lamar President, or in his/her absence, the next VP in the chain of command will respond to the Lamar University Police Department.

The immediate response of the first officers on scene is to take aggressive action to find and stop the shooter or shooters. As they move into the affected area, rescue efforts will be delayed until the shooter is located and stopped or no longer a threat to life safety. If you are wounded or with someone who is wounded, these officers will bypass you to search for the shooter. Rescue teams will follow shortly to aid you and others.

The following protocol is sound and generally applicable but must be adapted to the specific situation. **Bottom line**, if you hear shots fired on campus, or if you see or know that an armed person is shooting people, **protect yourself first – move to a safe location**.

IF THE SHOOTER IS OUTSIDE YOUR BUILDING:

- If you can do so safely, inform building occupants.
- Close and lock your door and all windows. If you cannot lock the door, try to block the door with furniture.
- Turn off all lights.
- Close the blinds and stay away from the windows and doors.
- Seek protective cover or lie on the floor.
- Keep quiet and act as if no one is in the room.
- Have ONE person call 880-8311 and give their name, location, and any other detail that can be provided about the shooter(s), if possible.
- Silence cell phones.
- Do not answer the door or respond to commands until you are certain they are issued by a police officer. Tell the officer to place his ID under the door.
- Wait for police to assist you in getting out of the building.

IF THE SHOOTER IS IN YOUR BUILDING:

- Determine if the room you are in can be locked. If so, follow the directions above.
- If your room cannot be locked, move to a room that can, or exit the building **ONLY IF IT IS SAFE TO DO SO.**
- Notify anyone you may encounter to exit the building immediately.
- As you exit the building, keep your hands above your head and listen for instructions that may be given by police officers. If an officer points a firearm at you, make no movements that may cause the officer to mistake your actions for a threat. Try to stay calm.
- If you get out of the building and do not see a police officer, call 8311 and provide the dispatcher with the following information:
 - (1) Your name
 - (2) Location of the incident
 - (3) Number of shooters, if known
 - (4) Identification or description of shooter(s)
 - (5) Number of persons who may be involved
 - (6) Your exact location
 - (7) Injuries to anyone, if known
- If you are unable to escape the building, move out of the hallway and into an office or classroom and try to lock the door.
- If the door will not lock, try barricading the door with desks and chairs. Lie on the floor and /or under a desk and remain silent.
- Silence cell phones.
- Cover door windows.
- If possible, place signs in exterior windows to identify the location of injured persons.
- Wait for the police to come and find you.

IF THE SHOOTER ENTERS YOUR OFFICE OR CLASSROOM:

- If possible call 911 or 8311 and alert the police to the shooter's location; if you can't speak, leave the line open so the dispatcher can listen and try to pinpoint your location.
- If you can't escape, attempting to overpower the shooter(s) by force is a **LAST RESORT.**
- If the shooter(s) leaves the area, proceed immediately to a safer place, if possible.
- If you decide to flee, do not carry anything; move quickly and quietly, keep your hands visible, and follow the instructions of the police officers.
- Do not attempt to remove injured people; tell the authorities of their location as soon as possible.
- Do not leave campus until advised to do so by the police. The area will be a crime scene; police usually will not let anyone leave until the area is secure and all witnesses have been identified and questioned. Stay where you are told until the police dismiss you.