Syllabus [1] **17 August 2017**

MAT 300 – Mathematical Structures – Fall 2017

Instructor: Alice Mark

Office Hours: T Th 3-4 and by appointment, in my office.

W 10-11, my wandering office hour will sometimes be in my office, but more often will be in another location (a coffee shop, outdoors) near my office. Location will be posted on blackboard and my office door.

Office: WXLR 439

Email: alice.mark@asu.edu

Any email you send to me must be sent from your official ASU email. All course correspondence will go to your `@asu.edu` account. You need to check this account regularly as it will be used for important announcements. If you notice a strange lack of announcements, check your spam filter.

FERPA does not allow me to discuss grades over email. If you have a question about grades, you need to make an appointment to come see me in person.

Class Time and Location: T Th, 10:30-11:45 in WXLR A308

Course Description: This course covers a range of mathematical topics with the goal of developing students' skills in proof writing. Topics include logic, mathematical reasoning, problem solving, relations, functions, and sets. These topics provide the context in which students will learn and practice various proof techniques and strategies.

Text: How to Prove it (2nd Ed.) by Daniel J. Velleman. We will use this book for problems, and you may find it useful as a reference. I will not be lecturing from it directly.

Blackboard: There is a blackboard site for this course on which will be posted: this syllabus, announcements, homework assignments, and grades. Please check it regularly.

Class style: The classroom is both active and interactive. You will be given problems to work on with your classmates. You will be asked to present solutions to these problems at the board during class. You may do this individually or in groups. In order for this to be effective, you must really try the problems even when you don't know where to begin, and you must ask questions as they arise even if they seem silly.

Working with others: You are encouraged to collaborate with your classmates on homework and in-class work. You may not collaborate on exams. If you collaborate on homework, you must write up your solutions yourself in your own words before you turn them in, and you must write the names of your collaborators on your assignment.

Here is a space to write down the names and email addresses or phone numbers of some of your classmates so that you can form study groups.

name: _____ contact: _____

name: _____ contact: _____

name: _____ contact: _____

name: _____ contact: _____

[1] This syllabus is subject to change as necessary. Verbal or written announcements made in class, on blackboard, or over email are considered valid, official changes.

Assessment: Your grade will be determined using your performance on written work, exams, and your attendance and participation class.

- **Written homework** (20% of your final grade): Written homework will be collected in class. It must be turned in on paper. No late or digital homework will be accepted. The two lowest homework grades will be dropped. The problems will mostly be from the textbook, though there may be additional problems from other sources. Occasionally I will assign rewrites of proofs. Rewrites of proofs must be textbook quality to receive credit.

- **Journal and reflections** (15% of your final grade) A few times throughout the semester, you will be asked to write a short reflections about the process of writing mathematical proofs. I will compile some of your responses into a guide to proof writing that we will be making as a class. This guide will be up on blackboard for reference.

  The journal is a compendium of several proofs we have done throughout the semester. You will have to revisit them, and rewrite them in "texbook style." This means that what you turn in should be good enough that it could appear in a textbook, and should include any necessary definitions or illustrations for context. More details will be provided later in the semester.

- **Exams** (60% of your final grade): There will be 2 in-class midterms and a final, each worth 20%. Your grade on the final may replace one midterm grade if it improves your overall grade in the class, but this only applies if you attend and make an attempt to do your best on both midterms.

- **Attendance and participation** (5% of your final grade): Learning mathematics is not a passive activity. During the semester there will be opportunities for you to present in class to your fellow students. I may also collect written work done in class from time to time.

Proofs: The primary objective of this course is that you learn to write good proofs. This is not something most of you have done before, and you're not expected to do it perfectly from the beginning. You are expected to get better at it over the course of the semester. Dana Ernst has a style guide for proof writing that you should read and follow: `http://danaernst.com/teaching/ElementsOfStyle.pdf`

Grading Scale: All numbers below are percentages.

E	D	C	C+	B-	B	B+	A-	A	A+
$[0, 60)$	$[60, 70)$	$[70, 76)$	$[76, 80)$	$[80, 83)$	$[83, 87)$	$[87, 90)$	$[90, 93)$	$[93, 97)$	$[97, 100]$

Course Withdrawal: August 23 is the last day to add/drop without college approval. November 1 is the course withdrawal deadline. December 1 is the complete session withdrawal deadline

A student may withdraw from a course with a grade of W during the withdrawal period. The instructors signature is not required. It is a students responsibility to verify that that they have in fact withdrawn from a class.

Instructor-Initiated Drop: At the instructor's discretion, any student who has not attended class during the first week of classes may be administratively dropped from the course. Non-attendance will not automatically result in a student being dropped from the course. The student should not assume they are no longer registered for a course simply

because they did not attend class during the first week. It is the student's responsibility to be aware of their registration status.

Incompletes: A grade of incomplete will be awarded only in the event that a documented emergency or illness prevents the student who is doing acceptable work from completing a small percentage of the course requirements. The student must provide written documentation and be passing the class at the time to receive an Incomplete. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed. The Dean of the students college must approve any exceptions to these rules.

Course Policies: Students are responsible for assigned material whether or not it is covered in class. Students are responsible for material covered in class whether or not it is in the text. Working regularly on assigned problems and attending class are essential. You are expected to read the text, preferably before the material is covered in class.

Make Up Exam Policies: Make up exams are at the discretion of the instructor and will only be given in the case of verified medical or other emergency. The instructor must be notified before the exam is given. Email your instructor or call the Mathematics Department Office (480-965-3951) and leave a message.

The final exam schedule listed in the Schedule of Classes (`http://students.asu.edu/final-exam-schedule`) will be strictly followed. Except to resolve those situations described below, no changes may be made in this schedule without prior approval of the Dean of the college in which the course is offered. Under this schedule, if a conflict occurs, or a student has more than three exams on one day, the instructors may be consulted about an individual schedule adjustment. If necessary, the matter may be pursued further with the appropriate dean(s). This procedure applies to conflicts among any combination of Downtown Phoenix campus, Tempe campus, Polytechnic campus, West campus, and/or off campus class.

Make-up exams will NOT be given for other non-emergency reasons. Students should consult the final exam schedule before making end-of-semester travel plans.

Student Resources: There are many resources available to assist you in learning the material. In addition to **my office hours** and **your fellow students** in the class, there is WXLR 303 and some online tutoring (`tutoring.asu.edu/online-tutoring`). All of these resources are free of charge.

Academic Dishonesty: Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity.

Students With Disabilities: Disability Accommodations: Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Disability Resource Center (DRC) is required. Disability information is confidential.

Establishing Eligibility for Disability Accommodations: Students who feel they will need disability accommodations in this class but have not registered with the Disability Resource Center (DRC) should contact DRC immediately. Their office is located on the first floor of the Matthews Center Building. DRC staff can also be reached at: 480-965-1234 (V), 480-965-9000 (TTY). For additional information, visit: www.asu.edu/studentaffairs/ed/drc. Their hours are 8:00 AM to 5:00 PM, Monday through Friday.

Policy on Threatening Behavior: All incidents and allegations of violent or threatening conduct by an ASU student (whether on-or off campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

Classroom behavior: Make sure you arrive on time for class. Excessive tardiness will be subject to sanctions. Under no circumstances should you allow your cell phone to ring during class. Any disruptive behavior, which includes ringing cell phones, listening to your mp3/iPod player, text messaging, constant talking, eating food noisily, reading a newspaper will not be tolerated. The use of laptops (unless for lecture note taking), cell phones, MP3, IPOD, etc are strictly prohibited during class. Students who engage in disruptive classroom behavior may be subject to various sanctions. The procedures for initiating a disruptive behavior withdrawal can be found at https://clas.asu.edu/resources/disruptive-behavior.

Absences related to religious observances/practices: If you will be absent from class due to a religious observance or practice, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.

Absences related to university sanctioned events and activities: If you will be absent from class due to participation in a university sanctioned event/activity, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.