

COURSE INFORMATION Location: MTH 215
 Class Times: MWF 12:00-12:50
 Instructor: Dr. Karl Frinkle
 Office: MTH 112
 Office Hours: MWF 10:00-10:50, TR 11:00-12:50, or by appt.
 E-mail: kfrinkle@se.edu
 Website: <http://homepages.se.edu/kfrinkle>

TEXT *Fundamentals of Mathematical Proof*, by Charles Matthews

COURSE PREREQUISITES MATH 2315 or departmental approval.

COURSE OVERVIEW In this course, we will cover topics from the following list (we may cover items not on this list as well):

- proof techniques
- functions
- relations
- induction
- countability

We will spend a significant portion of in-class time solving problems from the text. It is expected that you will attempt these problems before class, and you may be asked to present your work in front of the class.

COURSE WORK Please view the schedule pdf on BlackBoard on a regular basis for the most up-to-date information. The schedule will also list the homework exercises you are to work out for each section. There will be three in-class hour-long exams, and a final exam. The final exam may or may not be cumulative, depending on how much material we cover throughout the semester.

LEARNING OBJECTIVES The following objectives will be met in this class:

1. construct truth tables and determine if two logical statements are equivalent
2. construct direct proofs and proofs by contraposition
3. construct proofs by contradiction
4. show that a mathematical statement is false by using a counterexample
5. construct proofs of statements involving single or nested quantifiers
6. construct proofs using the Principle of Mathematical Induction
7. construct and make use of recursive definitions of mathematical objects
8. write down definitions of the mathematical terms covered in the course from memory
9. prove that not all infinite sets have the same size

GRADES Your final grade will be based upon the following items

- 20% - Homework - taken from the problems in the text, assigned on a regular basis
- 60% - Three in-class exams, worth 20% each.
- 20% - Final Exam - taken during finals week, will count the same as each of the three in-class exams.

COURSE MODIFICATION	I reserve the right to change any policies as I see fit to ensure that you are indeed receiving the best possible education that I can give you in the subject matter at hand. If I feel a certain aspect of the course does not appear to be effective in its method, I will attempt to change it (for the better I hope).
TECHNOLOGY	All cell phones and other such devices must be turned off and put away before class begins. If you are caught using a cell phone during class, your final grade will be dropped by one letter grade per incident .
CODE OF CONDUCT	It is also expected that everyone will behave in a kind and courteous manner towards fellow students and the instructor. The student handbook can be found at the following URL: http://www.se.edu/dept/student-life/files/handbooks/2015-2016-Student-Handbook.pdf
ACADEMIC CALENDAR	All important SE calendar dates can be found at the following URL: http://www.se.edu/dept/registrar/calendar/
COUNSELING CENTER	Any student experiencing mental or emotional issues who desires free, confidential, clinical counseling is encouraged to contact the SE Counseling Center at (580) 745-2988 to schedule an appointment during normal working hours Monday-Friday, 8:00AM to 5:00PM. For after-hours mental health emergencies, please call SE Campus Police at (580) 745-2911 or the Mental Health Crisis Hotline at 1-(800) 522-1090.
DISABILITY ACCOMMODATIONS	Any student needing special accommodations due to a disability should contact the Office of Compliance and Safety, Administration Building, Suite 311 or call (580) 745-3090 (TDD# 745-2704). It is the responsibility of each student who anticipates or experiences barriers to their academic experience to make an official request for disability related accommodations in a timely manner.
EQUITY AND NON- DISCRIMINATION STATEMENT	Southeastern Oklahoma State University, in compliance with all applicable federal and state laws and regulations, does not discriminate on the basis of race, color, religion, national origin, sex, age, disability, sexual orientation, gender identity, or status as a veteran in any of its policies, practices, procedures, or programs. This includes, but is not limited to: admissions, employment, financial aid, and educational services. Inquiries regarding non-discrimination and equity policies may be directed to: Michael Davis, Director of Compliance and Safety & Title IX Coordinator, (580) 745-3090, or mdavis@se.edu .