

COURSE INFORMATION	Location: MTH 215 Class Times: MW 14:00-14:50 Instructor: Dr. Karl Frinkle Office: MTH 112 Office Hours: MW 9:00–9:50, 11:00–11:50, 13:00–13:50, F 9:00–9:50, 11:00–11:50, TR by appointment only Office Phone: (580) 745–2028 E-mail: kfrinkle@se.edu Website: http://homepages.se.edu/kfrinkle
TEXT	none required
SOFTWARE	A personal computing device capable of installing L ^A T _E X and running a L ^A T _E X editor.
COURSE OBJECTIVES	<p>This course is a capstone course that includes a review of undergraduate mathematics, two standardized tests, a research project and a class presentation. A student who successfully competes the course will have:</p> <ul style="list-style-type: none"> • Developed a synthesis of undergraduate mathematics. • Written a research paper over some topic in mathematics. • Presented the results of their research to the class.
COURSE OUTLINE	<p>Review and Testing: We will spend a significant portion of the course reviewing basic undergraduate mathematics in preparation for taking an informal version of the Graduate Record Exam (GRE) and the official version of the Educational Testing Service (ETS) Major Field Exam in Mathematics.</p> <p>Research Paper and Presentation: This is the major component of the course and comprises 50% of your grade. You will be required to write a paper on some topic in mathematics. If there is an area of mathematics that you find particularly interesting please let me know. If appropriate, I will let you choose a research topic in that area. Otherwise I will assign a topic for you. To decide on a topic it is highly recommended that you browse the SE library. Austin College in Sherman has an excellent library and would also be a good place to look for references. In addition to at least two print sources, properly documented online sources are acceptable as well. Find a topic that is well-documented. Availability of adequate reference material is crucial to the creation of a good research paper. Your paper should contain significant mathematical content, at least some of which is new to you. Your paper will be evaluated on depth and correctness of mathematical content and clarity of exposition.</p> <p>The length of the paper should be at least 10 typed pages with one inch margins and 12 point font. You will be required to use L^AT_EX when writing up your paper. You should read and study material on your topic from no fewer than four sources, at least two of which should be books or journals.</p> <p>You will also be required to give a 20-25 minute presentation on your research project using at least one visual aid, such as an overhead projector, power point, etc. Your presentation will be open to the public and your audience will likely include several members of the mathematics faculty and your peers. It will be evaluated on the basis of depth and correctness of mathematical content, clarity, and effective use of visual aids. Most of the presentations will be scheduled for finals week.</p> <p>Resume: You are encouraged to take advantage of the services provided by the Placement Office. In addition, you will be required to create and submit a resume for yourself.</p>

Attendance and Participation: You are expected to show up to class and participate regularly in scheduled activities.

GRADES

Your final grade will be based upon the following items

- 10% - Attendance/Class participation¹
- 20% - GRE²
- 20% - ETS Major Field Test³
- Research paper
 - 5% - Proposal
 - 5% - Working bibliography
 - 5% - Rough outline
 - 10% - Rough draft
 - 10% - Final draft
 - 15% - Oral presentation

Notes:

1. Attendance/Class participation (10 percentage points) – You will receive 1/2 a percentage point for each day you are present for a total of 10.

2. Unofficial version of the GRE (20 percentage points) – There are 76 problems for you to work on from previous GRE exams. You will get 1 point for each problem you answer correctly on the first try, 1/2 a point for a correct solution on the second try, and 1/4 of a point for a correct solution on a third try. You will start with 26 points, and your score on each question will be added to this total. Your final score will be your percentage $\times 20\%$. You are expected to attempt ALL problems on the practice GRE and will lose one point for each problem not attempted. After week 1, you will be required to write up your solutions with L^AT_EX.

3. ETS Major Field Test (20 percentage points) – The number of points accumulated for this part of the course is $2P/5$, where P is your national percentile rank on the ETS exam. Thus a percentile rank of 50 on the ETS will result in full credit of $2(50)/5 = 20$ points. Percentile ranks higher than 50 will receive $(P - 50)/5$ bonus points. For example, a percentile rank of 70 would result in an overall score of $(20 + 20)/5 = 24$.

POLICIES

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). All changes will be made in writing.

IMPORTANT DATES FOR SPRING 2015

- 2015.01.12 - Classes begin
- 2015.01.16 - Last day to enroll in or add classes
- 2015.01.16 - Last day to drop a class with no grade record
- 2015.01.16 - Last day to drop a class with refund/no charges
- 2015.01.19 - Martin Luther King Jr Day (no class)
- 2015.03.04 - Assessment Day
- 2015.03.06 - Last day to drop a class with automatic 'W'
- 2015.03.16–20 - Spring Break
- 2015.04.01 - Last day to complete final application for graduation
- 2015.04.03 - Easter Holiday
- 2015.04.10 - Last day to drop a class
- 2015.05.08 - Classes end

SPECIAL ACCOMMODATIONS

Any student needing special accommodations due to a disability should contact the Coordinator for Disability Services, GDJ Student Union, Suite 328 or call (580) 745–2392 (TDD# 745–2704). It is the responsibility of each student to make an official request for accommodations to the Coordinator.

AT-RISK STUDENTS 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, 8:00 AM to 5:00 PM. 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.