

COURSE INFORMATION Location: MTH 115
 Class Times: TR 12:30-13:20
 Instructor: Dr. Karl Frinkle
 Office: MTH 112
 Office Hours: MW 11:00-11:50, 13:00-13:50, TR 11:00-12:30, F 11:00-11:50, or by appt.
 Office Phone: (580)745 – 2028
 E-mail: kfrinkle@se.edu
 Website: http://homepages.se.edu/kfrinkle

TEXT None required.

SOFTWARE None required.

COURSE OBJECTIVES 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:

- developed a synthesis of undergraduate mathematics,
- written a research paper over some topic in mathematics,
- presented the results of their research to the class,
- built a resume.

COURSE OUTLINE **Review:** There will be a general review of the main areas of study from your undergraduate courses, which can be broken down into 5 main areas: (1) calculus, (2) linear algebra, (3) differential equations, (4) abstract algebra, and (5) probability. This review will be a significant part of the preparation for the ETS exam. Students will present their solutions in class for a grade on a 0-5 scale. **20% of final grade**

Testing: You are required to take the official version of the Educational Testing Service (ETS) Major Field Exam in Mathematics. The exam will be broken into two parts, spread over two days of class. **Your percentile score on the exam is worth up to 25% of the course grade (and up to 5% bonus points). If your exam score is in the 50th percentile or below you will get half that number of percentage points. If you score at the 50th percentile or above you will get the full 25% plus a bonus percentage for each 5 percentile points over 50 you get (maximum 5 bonus percentage points).**

Research Paper: You will be required to write a paper on some topic in mathematics. To decide on a topic, it is highly recommended that you think about the topics which interested you the most in the mathematics courses you have taken thus far. 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. For your paper, you are required to have at least two print sources, properly documented online sources are acceptable as well. Thus you should attempt to pick 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. The length of the paper should be at least 6 typed pages with one inch margins and 12 point font. 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. **20% of final grade**

Presentation 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. If the pandemic is still causing in-person meetings, we may switch to a video recorded presentation instead. **15% of final grade**

Resume: You will construct a resume suitable to the type of post-college positions you might be looking into. It is highly recommended you take advantage of the Career Management Center for your resume - they will critique it for you. **10% of final grade**

GRADING POLICY Rounding to the next letter grade is not automatic and will be at the discretion of the instructor. The grading scale is as follows:

Letter Grade	Percentage Range
A	90-100 %
B	80-89 %
C	70-79 %
D	60-69 %
F	0-59 %

MANDATORY STATEMENTS

Mental Health Support: Any student (in-person or online) who desires free, confidential, mental health services is encouraged to contact Student Wellness Services at (580) 745-2988, during business hours, to discuss the options currently available to them. For 24-hour emotional crises, you may call the National Lifeline at 1-800-273-TALK (8255) or use the online chat at suicidepreventionlifeline.org/chat/.

Disability Accommodations: Any student needing special accommodations due to a disability should contact the Office of Disability Services, GDJ Student Union Room 328 or call (580) 745-3036. 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. If you have questions regarding disability accommodation process or policy please contact Tiffany Tate, ttate@se.edu for more information.

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, Title IX Coordinator, (580) 745-3090, or mdavis@se.edu

Academic Dishonesty: Academic dishonesty of any kind will not be tolerated. You may fail an assignment, fail the course or be expelled from the University for academic dishonesty. As a student, it is your responsibility to be familiar with and abide by The Student Code of Conduct, which may be viewed in the Student Handbook. Please note that your own original work is expected for all assignments that you submit. Ignorance is not generally accepted as an excuse.

COVID STATEMENTS

Conversion to Online Format: Southeastern students should be aware that in the event of an announced extended University closure due to emergency reasons (including but not limited to: controlling outbreaks such as COVID or flu, weather, issues with campus facilities, etc.) onsite classes may be converted to an online/remote format. Students should plan ahead to ensure they have access to the computer equipment (either PC, MAC, or tablet), webcam, and internet connectivity to continue their classes in an online/remote format. Please read all of your official Southeastern

student emails as the transition from onsite to online/remote might require a reorganization in your personal situation. Students will be granted a 72-hour transition and grace period. Online classes will continue as scheduled without disruption unless otherwise announced. When these situations arise stay safe and contact your Instructor as the situation requires. This policy was updated on June 11, 2021 and is subject to change.

Face Coverings: Southeastern has removed the previous guidance requiring that masks be worn on campus. The voluntary wearing of masks is still allowed per current CDC guidance. The University strongly recommends masking for all unvaccinated individuals when inside Southeastern's academic, athletic, housing and administrative facilities. Please note that there may be some limited specific areas of campus where mask wearing may be required such as in the student health services area. This policy was updated on June 11, 2021 and is subject to change.

Attendance Policy: The guidance surrounding the current pandemic is starting to change, however, while the numbers may be smaller there is still the possibility that people may become infected with COVID. Due to this some of the attendance policies related to COVID will remain in place as follows: students who are sick or need to quarantine should not attend classes. Students should provide proper notification to campus health officials in accordance with the guidelines stated below. (<https://form.jotform.com/201426138264046>)

Faculty will:

- Set attendance policies which should include notifying students regularly about important course information and delivery changes through Blackboard and campus email.
- Consider the overall health of the University community when implementing attendance policies.

Students will:

- Provide notification to campus officials (<https://form.jotform.com/201426138264046>) if they have tested positive for COVID-19 or have to quarantine so we can confirm the reported absence with instructors, monitor, and assist the campus community.
- Notify instructors in advance of the absence.
- Keep up with and/or make up missed classwork or assignments.
- Submit assignments digitally through Blackboard or other means as announced by your instructor.
- Work with their instructors to reschedule exams, labs, and other critical academic activities as allowed and described in the course syllabus.
- Check Blackboard and campus email daily to receive important announcements pertaining to the course.

At this time, all faculty will still continue to establish assigned seating to facilitate roll-taking, and, if necessary, contact tracing. While social distancing is no longer required, quarantines for those who test positive and for those who are vaccinated but show symptoms may occur. Faculty should not ask students if they are vaccinated.

Additionally, we ask all members of the University community to be attentive to their health, and safeguard others, by following the CDC's guideline to "stay home when you are sick." You should stay home if you have symptoms. More information on what to do if you are sick is available at the CDC's website.

These policies and procedures were updated on June 11, 2021 and are subject to change.