

INSTRUCTOR CONTACT INFORMATION
Location: CB 103
Time: TR 12:30-13:45
Instructor: Dr. Karl Frinkle
Office: MTH 112
Office Hours: by appointment only
E-mail: kfrinkle@se.edu
Website: <http://homepages.se.edu/kfrinkle>

COURSE DESCRIPTION
A study of equations and functions (linear, polynomial, rational, exponential, and logarithmic) from various perspectives (symbolic, verbal, numerical, and graphical); using technology for graphing functions, solving equations and modeling data with regression analysis. This course is designed for non-STEM majors and those not planning to take Math 2215 – Calculus I.

COURSE OUTLINE
We will attempt to cover approximately the first four chapters of the text. There is a prologue which delves into the use of calculators to perform arithmetic, and we may refer to it if need be, but much of it will not be pertinent to our study as we will be using *Mathematica*. Chapter 1 investigates the various ways we define functions, chapter 2 is an analysis of functions, chapter 3 is the study and application of linear functions, and chapter 4 is the study of exponential and logarithmic functions, and their applications.

COURSE PREREQUISITES
MATH ACT of at least 19 or a passing score on the departmental placement exam or MATH 0123.

REQUIRED MATERIALS
Text: *Functions and Change: A Modeling Approach to College Algebra* (6th edition), B. Crauder, B. Evans, and A. Noell, ISBN # 978-1-337-11134-8

Software: We will be using *Mathematica* for the duration of this course, more information about how to download it for *free* can be found here:

<https://www.se.edu/information-technology/student-it-help/>

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

1. Interpret functions using real-world contexts by translating across multiple representations, including symbols, tables, graphs, and words.
2. Identify and analyze families of functions, including linear, polynomial, rational, exponential, and logarithmic functions.
3. Determine key characteristics of functions, including global properties and local patterns of change, and interpret their meanings in context, including asymptotes, concavity, end behavior, extrema, increasing/decreasing intervals, and turning points.
4. Combine and modify existing functions to create new functions, including composition of functions, cost, revenue, and profit functions, transformation of functions, and regression analysis.
5. Apply algebraic techniques and digital resources to create, analyze, and interpret appropriate models (either functions or systems of equations) of real-life phenomena.

GENERAL
EDUCATION
OUTCOMES

As a general education course, this course contributes to the critical thinking and the mathematical or quantitative reasoning components of the general education program at Southeastern. The goal of the critical thinking component is to enhance the ability of students to integrate new information with previously acquired information to solve novel complex problems. To address the critical thinking goal, students will solve problems described verbally, graphically, symbolically or numerically. The goal of the mathematical or quantitative reasoning component is to develop the ability of students to understand and apply mathematical abstraction. To address the mathematical or quantitative reasoning goal, students will:

1. Solve problems using the principles of algebra and statistics.
2. Apply mathematical reasoning and technology to analyze and interpret quantitative information.
3. Use and interpret mathematical formulas.

GRADING POLICY

The work you will do in this course which will add to your final grade can be categorized as follows:

- **Homework:** Homework will be assigned on a section-by-section basis and will be due on a weekly basis. Each homework section will be given a grade, and the resulting average is worth 20% of the course grade. **Homework will be submitted through BlackBoard and must be in the form of a Mathematica notebook.**
- **Project:** There will be a project assigned mid-way through the semester. Expect to gather data from external sources and use *Mathematica* for the subsequent analysis of your data. This project will be worth 20% of your grade. **The Project will be submitted through BlackBoard and must be in the form of a Mathematica notebook.**
- **Cumulative Quizzes:** There will be cumulative quizzes given every two weeks, these will be in place of exams and will be worth 40% of your final grade. **Quizzes will be submitted through BlackBoard and must be in the form of a Mathematica notebook.**
- **Weekly Check-Ins:** There is a 'Weekly Check-Ins' Forum on the Discussion Board. You will have various tasks to perform in this Forum each week! This counts for 20% of your final grade.

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

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 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 a University closure due to COVID19, onsite classes will 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 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. Wear a mask, stay safe, and contact your Instructor as the situation arises. These policies and procedures were updated on July 30, 2020 and are subject to change.

Face Coverings: Per the Southeastern Oklahoma State University guidance on face coverings on campus, in the instructional setting, faculty and students must wear face coverings. At the discretion of the instructor, to accomplish an educational objective as long as safety protocols are met (including ample distance, shielding and other measures), faculty and students may be authorized to temporarily remove face coverings. Students without coverings, or those who do not comply with the rules relating to face coverings, will not be able to participate in on-campus classroom activities. To request an ADA exception to this requirement, students should contact the Disability Services Office. Failure to comply with the face coverings requirement may result in the Instructor directing the student to leave the classroom. Any student asked to leave the classroom may be referred to the Office of Student Conduct. These policies and procedures were updated on July 23, 2020 and are subject to change.

Attendance Policy: We are facing an unprecedented situation in which all of us must be flexible and make prudent decisions in the best interest of our families, our campus, and our community. In light of this, Southeastern is temporarily establishing campus-wide course attendance guidelines as follows: Students who are sick or need to quarantine should not attend classes. Students will not be required to provide formal documentation from a health care provider and will not be penalized for COVID-19 related absences when proper notification to campus health officials is made in accordance with the guidelines stated below.

Faculty will notify students about important course information and delivery changes through Blackboard and campus email.

Students will:

- Provide notification to campus officials (Illness Reporting Form) if they have tested positive for COVID-19 or have to quarantine so we can confirm reported absence with instructors, monitor, and assist the campus community.
- Notify instructors in advance of an absence.
- Connect with that class through Zoom if the class session is being transmitted in a hybrid fashion.
- 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 described in the course syllabus.
- Check Blackboard and campus email daily to receive important announcements pertaining to the course.

During this period, all faculty will establish assigned seating to facilitate roll-taking, and, if necessary, contact tracing. 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 July 24, 2020 and are subject to change.