

MTH 1270 Introduction to Functions and Modeling

Required:

- Textbook: Functions and Change: A Modeling Approach to College Algebra (sixth edition), by Crauder, Evans, and Noell (can also be rented from Amazon)
- ALEKS online learning platform (included in your course fee) and 3-ring binder or notebook
- Graphing calculator (TI-83 or 84)—These can be rented from the Math Learning Center for \$20/semester or borrowed from a friend. Be ready to buy batteries for the calculator. <https://www.wright.edu/student-success/academic-support/math-learning-center>). No scientific calculator needed.

In this course you will analyze functions and their properties

Course Learning Outcomes. Students will:

- Recognize and be able to work with the common function forms – algebraic, graphical, tabular, and verbal.
- Be able to translate a given function from one representation to another – for example, graph a function given its equation or write an equation of a function given a written description of it.
- Recognize certain common types of functions – linear, power, exponential, logarithmic.
- Analyze a function presented as a graph to answer questions about inputs and outputs; intervals of increase, decrease, and concavity; the change and rate of change in the output over a given interval.
- Analyze a function presented as an equation or table to answer questions about outputs, and about the change and rate of change in the output over a given interval.
- Understand the units of average rates of change; understand the scale of the axes of a coordinate plane.
- Read a sentence or paragraph and understand what mathematics is necessary to answer the question presented therein.
- Present articulate oral or written conclusions based upon mathematical analyses.
- Use technology to create tables and graphs of functions, solve equations and inequalities, and find extrema and limiting values of functions.
- Learn and use student success skills.

CORE Learning objectives:

This course is part of the Wright State Core and addresses the following Core Mathematics objectives:

- Identify the various elements of a mathematical or statistical model
- Determine the values of specific components of a mathematical/statistical model or relationships among various components.
- Apply a mathematical/statistical model to a real-world problem.
- Interpret and draw conclusions from graphical, tabular, and other numerical or statistical representations of data.
- Summarize and justify analyses of mathematical/statistical models for problems, expressing solutions using an appropriate combination of words, symbols, tables or graphs.

Grades will be determined as follows:

Attendance and Participation (10%):

- This class will not use a traditional lecture model that you may have encountered in many of your previous mathematics classes. Instead, you and your groupmates will be presented with activities to help you explore and understand the major concepts covered in the course and textbook. Class time will be spent presenting and discussing concepts, solving problems, and working in cooperative groups to answer questions.
- If you are absent from a class, it is expected that you will have read that section in the textbook and attempted the homework problems. Do not assume you will “catch up” by being in the following class.
- Because much of the work done in this class will be based on group work and discussion, attendance is mandatory. Every student is expected to come to class on time, prepared to participate in both group work and class discussions. This includes being prepared to discuss videos provided to prepare for the lesson and homework exercises, actively participating in class discussions and activities, asking and answering questions, staying on task while working with your groupmates, not using your cell phone during class, and cooperatively working with your classmates. All of this will factor into your participation grade:
 - 10 pts – full participation as listed above
 - 5 pts – late to class or present but not on task (any use of cell phones or doing other homework are not on task)
 - 0 pts – not attending class
- There is no way to make-up these points. However, several scores will be dropped at the end of the semester to account for unforeseen difficulties such as illness, car breaking down, etc.

Notebook (15%) will include:

- Watching the videos to prepare for class and answering the questions asked in the video in your notebook.
- Completing textbook homework problems in your notebook. These will be checked for completeness and following directions rather than correctness. You will have time to ask about them after they are checked.
 - 10 pts – fully completed homework assignment, notes on video, answering questions from the video. If you have trouble on the homework or video tasks, it is expected you will email, go to the learning center, etc.
 - 5 pts – Either HW assignment or video
- You may earn these HW points if you email your homework before class begins. No credit will be given for homework emailed after class begins. Several scores will be dropped at the end of the semester to account for unforeseen difficulties such as illness, car breaking down, etc.

ALEKS assignments (12%):

- ALEKS assignments have a due date and will be checked electronically.

ALEKS work time requirement (3%):

- You are required to work on ALEKS assignments at least 55 minutes each week. Your score will be 10/10 in the weeks you have completed 55 minutes, and 0/10 if you haven't. You must still complete all of the assigned objectives when a chapter homework is due.

Quizzes (15%):

- Quizzes will be given nearly every day at the beginning of class. There are no make-up quizzes. However, several scores will be dropped at the end of the semester to account for unforeseen difficulties such as illness, car breaking down, etc.

Tests (30%):

- Four non-cumulative exams will be given throughout the term You will be given some guidance on what to expect in terms of the questions prior to the in-class exam.
- You must show all work on any assessment to receive full credit for your answer!
- There will be no make-up exams for any reason. To account for this, one of the test scores will be dropped at the end of the semester.

Final Exam (15%):

- A comprehensive final examination will be given during final exams week.

Grading Scale for Final Course Grade:

Achieved Scores	Letter Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D
Below 60%	F

To be successful in this class:

- From past experience, the students who successfully completed a class like this spent an average of 8 to 10 hours outside of class each week thinking and writing about the work we did in class, reading the textbook, working on homework problems, practicing calculator skills, and studying in general. These students kept up with assignments and asked questions in a timely manner. These students also reported that coming to class and working with their groupmates was essential to their learning.
- Thus, it is not only important to work well with your groupmates in class, but I recommend you meet with your group at least one hour per week outside of class time. Students who work with other students on a regular basis outside of class tend to perform much better than students who work alone.
- The Wright State University academic integrity policy (<https://policy.wright.edu/policy/3710-academic-integrity-standards-and-process-misconduct>) will be strictly enforced. Any academic integrity violation in this course will be brought to the Office of Student Conduct.

Other Resources you might need:

- Any student who needs some assistance with math should visit the Math Learning Center. The Math Learning Center (MLC) offers free assistance to students enrolled in this course. To sign up for an appointment or find out more go to: <https://www.wright.edu/student-success/academic-support/math-learning-center>
- Any student who, because of a documented disability, requires special arrangements in order to meet course requirements should contact the Office of Disability Services at <http://www.wright.edu/diversity-and-inclusion/disability-services> to discuss and coordinate their accommodations.

- Any student who needs technical assistance can contact the CaTS help desk at 937-775-4827 or helpdesk@wright.edu
- Any student who is in need of emergency food assistance should check out the Raider Food Pantry at <http://www.wright.edu/student-affairs/student-resources/raider-food-pantry/using-the-food-pantry>
- Any student who is in need of child care assistance can contact Mini University's Child Care Assistance program at <https://www.wright.edu/raiderconnect/financial-aid/child-care-assistance>
- For information about transportation on campus and around Dayton, <http://www.wright.edu/facilities-management-and-campus-operations/services/transportation>
- Any student who is experiencing other barriers to success can check out the Student Advocacy and Wellness Office at <http://www.wright.edu/student-affairs/health-and-wellness/student-advocacy-and-wellness>
- For general questions or for other help, go to wright.edu/help