

# MGF 1130: Mathematical Thinking (In-Class)

## I. Semester Information

Course Information: MGF 1130: Mathematical Thinking

Credit Hours/Contact Hours: 3 credit hours, 3 hours lecture

Pre-Requisites: Successful completion of developmental courses, appropriate placement test scores, or meet State exemption requirement

Current Semester/CRN: Fall 2024, CRN# 85052

## II. Contact Information

Instructor: Keith Owens

Instructor Credentials:

A.A., Gulf Coast Community College

B.S., University of Florida

M.S., Mathematical Sciences, University of West Florida

Instructor Phone: (850) 769-1551 ext 5877

Instructor Email: [kowens@gulfcoast.edu](mailto:kowens@gulfcoast.edu)

Division Chair: Angela Reynolds, [areynolds@gulfcoast.edu](mailto:areynolds@gulfcoast.edu); 850-872-3852

Division Administrative Assistant: Scott Spencer, [sspencer@gulfcoast.edu](mailto:sspencer@gulfcoast.edu); 850-747-3229

## III. Approved (Required) Course Materials and Resources

a. MyLab Math with Pearson eText for Thinking Mathematically, 8/e, by Blitzer

b. A handheld calculator

*Note:* While calculators with fewer features are acceptable, the GCSC Mathematics Division recommends the TI-83 or TI-84 calculator. Each student is expected to have his/her own calculator. Cell phones and computers **may not** be used as a calculator.

## IV. Curriculum

Course Description: Through this course, students will utilize multiple means of problem-solving through student-centered mathematical exploration. The course is designed to teach students to think more effectively and vastly increase their problem-solving ability through practical application and divergent thinking. This course is appropriate for students in a wide range of disciplines/programs.

Topics included are logic, set theory, geometry, and personal finance.

Method of Instruction: This course is conducted by the lecture-question-demonstration method. At the beginning of the period, questions from the previous lectures and problem assignments are discussed. Following these discussions, the instructor lectures on current material from the text. Demonstrations of methods are explained and presented thoroughly, when not beyond the scope of the course and the background of the students.

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A short summary is given and a problem assignment is made. Small group activities are encouraged. The use of MyMathLab will be demonstrated in class. Students are also encouraged to use videos available in Canvas. Homework and quizzes will be assigned regularly and are to be completed in MyMathLab. Dates for tests are announced in advance through the daily academic schedule.

### Broad Goals of the Course :

- To develop students' mathematical problem-solving skills
- To enhance students' calculation skills
- To deepen students' logical and deductive reasoning skills

### Student Learning Outcomes:

- 1) Students will determine efficient means of solving a problem through investigation of multiple mathematical models to include inductive and deductive reasoning.
- 2) Students will apply logic in contextual situations to formulate and determine the validity of logical statements using a variety of methods.
- 3) Students will apply mathematical concepts visually and contextually to represent, interpret, and reason about geometric figures.
- 4) Students will recognize the characteristics of numbers and utilize numbers along with their operations appropriately in context.
- 5) Students will analyze and interpret representations of data to draw reasonable conclusions.

## **V. Student Expectations of the Instructor**

Office Hours: During a regular Fall or Spring semester, I am available for 10 office hours (typically walk-in) each week. The specific hours will be posted in Canvas the first week of classes. Availability outside of office hours is by appointment.

Email/voicemail response time: Students who contact me via email can expect a reply within 1 business day. Voicemail will be returned within 1 to 3 business days.

Learning Management System Usage: Canvas will be used as both the access point for all MyMathLab assignments and as a repository of information. Class notes and assignment deadlines will all be available in Canvas for easy access. Additionally, any outside resources the instructor finds beneficial will be housed in Canvas for student reference, including course videos. The Canvas gradebook will be set up to calculate current averages. Course evaluations will also be administered via Canvas.

## **VI. Expectations of the Student**

Students are expected to

- purchase a MyMathLab code
- have the ability to access and complete assignments in MyMathLab through Canvas
- attend class regularly and keep up with the course material

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- communicate with the instructor if they are having trouble with the material or if they are unable to complete an assignment
- read course announcements posted in Canvas

Academic Integrity: Honest participation in academic endeavors fosters an environment in which optimal learning can take place and is consistent with the college's mission.

Academic misconduct, including cheating or plagiarism, is destructive to the spirit of an educational environment and therefore will not be tolerated. "Cheating" includes, but is not limited to, the use of any unauthorized assistance in completing course work.

"Plagiarism" includes, but is not limited to, the use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment. Sanctions for incidences of academic misconduct, depending on the severity of the incidence and/or its repetition, may range from receiving an F grade (or zero) for the test, assignment, or activity, to failure of the course, to suspension or dismissal from the program or the College.

Accessibility Statement: Gulf Coast State College supports an inclusive learning environment for all students. If there are aspects of the instruction or design of this course that hinder your full participation, reasonable accommodations can be arranged. Prior to receiving accommodations, you must register with Student Accessibility Services. Appropriate academic accommodations will be determined based on the documented needs of the student. For information regarding the registration process, email [sar@gulfcoast.edu](mailto:sar@gulfcoast.edu) or call 850-747-3243.

Recording of Lectures: In accordance with federal and state privacy laws, students may record class lectures for their own personal educational use, in connection with a complaint to the college, or as evidence in internal or external legal proceedings. Students may not publish or upload the recordings or any components thereof without the knowledge and written permission of the faculty member. Failure to obtain permission to publish could lead to the students' having to pay damages, attorney fees, and court costs. For more information about what can be recorded, please see the guidelines on pages 35-37 in the GCSC Student Handbook <https://www.gulfcoast.edu/current-students/documents/student-handbooks/2023-2024-student-handbook.pdf>.

Attendance Policy: Attendance in class is vital to your success and is positively correlated with your final grade. Furthermore, attendance with participation is even more highly correlated with your final grade. Please ensure that you are present and participating at each class session. Attendance will be recorded each day and you are expected to attend. If you do not attend class for the first two weeks, you will be withdrawn for non-attendance. Absences of more than one-eighth the course (i.e., at four absences in a standard 16-week, two class per week semester) may result in withdrawal. YOU MUST ATTEND ON EACH TEST OR EXAM DAY.

Withdrawal Policy: Two withdrawals are permitted per course. After that, a grade will be assigned. Please be concerned about withdrawals. When admitting students into certain programs, universities may calculate withdrawals as grades.

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There are two types of withdrawals:

- **Student Withdrawal:** Students may withdraw from a course prior to the scheduled withdrawal deadline published in the academic calendar. The form the student must complete and submit to withdraw from a course is available on the GCSC Admissions webpage. Withdrawals initiated prior to the published withdrawal deadline will be recorded as "W". After the withdrawal deadline, a student cannot withdraw from the course and will receive a grade.
- **Administrative Withdrawal:** This withdrawal is completed by an instructor for excess absences or by the Dean for extenuating circumstances.

**Grade Forgiveness:** A student may repeat a course when a grade of "D" or "F" has been earned. The last grade counts. However, universities may count forgiven grades in calculating the grade point average. Forgiven grades may also be calculated in determining financial aid eligibility.

**Attempts:** This course, which is a college credit course, may be attempted three times. On the third attempt, 100% of the full cost of instruction will be charged. Students with major extenuating circumstances may submit a letter of appeal stating the circumstances to the Counseling Center. All grades from the third and subsequent attempts will be calculated in the grade point average.

### **VII. Measures of Student Performance**

**Method of Assessment:** There will be four in-class tests and the average of these 4 tests will be worth 75% of your final grade. There will also be assigned homework and a quiz for each section of the course. The average of the assigned homework will be worth 15% of your final grade and the average of the assigned quizzes will be worth 10%.

**GCSC Grading Scale:** The college catalog will be used to convert the numerical average to a letter grade. The college grading scale is: A (100-90), B (89-80), C (79-70), D (69-60), and F (59-0).