

MGF 1130 – Mathematical Thinking Syllabus Template

Your course instructor will provide you with an extended version of this course syllabus.

Course Information

Course Title: Mathematical Thinking
Course ID: MGF 1130
CRN:
Course Description: (The course description can be found below)
Term and Year:
Course Modality:

Instructor Information

Name:
Department: Mathematics
Campus:
Office Hours: (Office hours are posted by all faculty)
Phone Number:
Email:
Communication Policy: (All communication is through established protocols)

Required Textbook, Supplemental Materials, and Technology

Thinking Mathematically. Blitzer. 8th Edition. *Pearson Publishing*. (ISBN-13: XXXX)
Any scientific calculator.

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 effectively and increase their problem-solving ability through practical application and divergent thinking. This course is appropriate for students in a wide range of disciplines/programs. This course fulfills the Gordon Rule computational requirement and must be completed with a grade of “C” or better.

Course Outcomes

1. Determining efficient means of solving a problem through the investigation of multiple mathematical models
 - a. Apply inductive and deductive reasoning
 - b. Apply estimation techniques to real-world applications and graphs
 - c. Solve problems using the four-step-problem-solving process
2. Apply logic in contextual situations to formulate and determine the validity of logical statements using a variety of methods
 - a. Translate statements into symbolic form, and symbols into English

- b. Construct truth tables to determine the validity of compound statements using conjunction, disjunction, negation, and conditional formats
 - c. Create equivalent statements and negations
 - d. Determine the validity of arguments using truth tables
- 3. Apply mathematical concepts visually and contextually to represent, interpret, and reason about geometric figures
 - a. Solve problems involving angle measures, parallel line, transversals, triangles, and the Pythagorean Theorem
 - b. Calculate perimeter, circumference, and area of polygons and circles
 - c. Calculate volume and surface area of three-dimensional figures
- 4. Recognize the characteristics of numbers and utilize numbers along with their operations appropriately in context
 - a. Construct Venn Diagrams to visualize survey results and answer questions about surveys
 - b. Solve equations with integers and rational numbers using order of operations
 - c. Calculate equations with square roots
 - d. Predict terms of geometric and algebraic sequences
 - e. Solve financial applications involving percent, sales tax, discounts, income tax, and simple interest
- 5. Analyze and interpret representations of data to draw reasonable conclusions
 - a. Model relationships using graphs
 - b. Solve problems using Euler's Theorem, Fleury's Algorithm, Hamilton Path/Circuits, Brute Force Method, Nearest Neighbor Method, and Weighted graphs

Grading Policy

A withdrawal for academic reasons may be issued by the instructor up to the last date for withdrawal as specified in the academic calendar. Exception: Students enrolled for the third time are not to be withdrawn.

Deadlines are posted on Pearson My Math Lab and Brightspace. Work must be submitted by the deadline to receive credit. *Some extensions may be permitted with instructor approval.* Your final course grade will be determined by dividing the sum of the points accumulated by the student by the total points possible.

Course Resources

SFSC is committed to student success, and, therefore, provides several tutoring services. The Tutoring and Learning Center is located on the first floor of the LRC and offers free tutoring, mainly in Math and Writing. Hours may vary. For online students who have paid a fee to register for the class, the online service Tutor.com will be available for a specific number of hours (designated for each class, additional hours may be available upon request).

Netiquette

When communicating online, it is essential to observe certain rules of behavior called “netiquette,” which refers to rules of behavior governing the use of all internet services, including discussion groups, webpages, blogs, and social media. Please refer to the handout in Brightspace for further information about behavior and consequences for poor netiquette.

Honorlock (Test Proctoring Service)

Honorlock will proctor your exams this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account, download software, or schedule an appointment in advance.

Honorlock is available 24/7, and all that is needed is a computer, a working webcam/microphone, your ID, and a stable internet connection. To get started, you will need Google Chrome and download the Honorlock Chrome Extension. When you are ready to complete your exam, log into Brightspace, go to your course, and click on your exam. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session through your webcam, microphone, and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device. Honorlock support is available 24/7/365. If you encounter any issues, you may contact them through live chat on the support page or within the exam itself. Some guides you should review are Honorlock MSRs, Student FAQ, Honorlock Knowledge Base, and How to Use Honorlock.

DISCLAIMER: Course policies, procedures, and schedule may be changed at any time at the discretion of the instructor. You will be advised of any changes in writing.