

Math 44, Mathematics in Art, Culture, and Society Winter 2022
Tuesday/Thursday, 4:00 – 6:15 pm online (Zoom)

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Office Hours: Tuesday/Thursday 2:30 to 3:30 pm (Zoom link in Canvas) or by appointment

About the Course: What is mathematics? When people think of math, they tend to think of formulas, numbers, and variables. But really, mathematics is about much more – creativity, problem solving, recognizing patterns, and most importantly, ideas. Through inquiry, exploration, and discovery, this course will bring to light ideas from various mathematical topics that will broaden your definition of what mathematics is. My hope is for you to develop a deeper appreciation for mathematics – and even find it enjoyable.

About the Textbook: We will use *The Heart of Mathematics: An Introduction to Effective Thinking* by Burger and Starbird. It is quite a unique textbook! We will be using the 4th edition and cover all 10 chapters. You can find an Ebook version through the Bookstore.

We will not be able to cover 100% of the material in the book during our class time. As such, it is your responsibility to read each section as needed. A reading schedule will be posted on Canvas.

Course website: Canvas will be the main hub of information for the course. All course materials will be uploaded and made available as the course progresses, and you will submit most of your assignments through Canvas.

Since our class is online, it is YOUR responsibility to check Canvas often and keep up with course material, announcements, quizzes, and other assignments. You must develop a good habit of checking Canvas regularly if you plan to succeed not only in our class, but your other classes at De Anza as well.

Grades: We will use a standard letter grading system (97-100 A+, 93-97 A, 90-93 A-, etc).

<i>Weekly Homework</i>	20%	<i>Chapter Quizzes</i>	20%
<i>Research Papers</i>	20%	<i>Reading Reflections</i>	10%
<i>Group Project</i>	10%	<i>Final Exam</i>	20%

Late Policy: While you should do your best to submit work on time, late work is accepted for partial credit. The amount of credit will depend on the number of days missed.

This late policy applies to homework, papers, and quizzes, and reflections. It does NOT apply to the group project or the final exam.

Weekly Homework: There are weekly homework assignments which are due every *Saturday* by midnight. These assignments are posted on Canvas, and you will submit a response in Canvas or upload written work. *Homework is 20% of your grade, with 2 scores dropped.*

Research Papers: As a liberal arts math class, we will have 2 essays throughout the quarter. You will conduct independent research on topics such as: ancient and contemporary mathematicians, historical development of mathematics, and societal issues involving math. *Papers are 20% of your grade. Late work will be accepted with partial credit.*

Chapter Quizzes: We will short quizzes due every *Sunday* by midnight, which will cover content from the previous week. You will explain concepts and perform some computations. These will be administered on Canvas. *Quizzes are 20% of your grade.*

Reading Reflections: The mathematics described in the textbook will likely be unfamiliar to you. At the end of every week, you will submit a short journal-style entry on Canvas summarizing the chapter for the week, along with some of your opinions and thoughts regarding the reading and your progress in the course. *Reflections are 10% of your grade.*

Group Project: At the end of the quarter, you will have a collaborate group project exploring and expanding on the ways that math is used in society. Each group will give a short presentation to the class displaying their findings and discoveries. More details will be given in the last month of class.

Final Exam: The final exam will be cumulative and will take place during the week of March 21st. It will be administered on Canvas asynchronously with similar structure to the quizzes. More details will be given closer to the exam date. *The final exam is 30% of your grade. There will be no makeup exam.*

Academic Integrity: All students are expected to exercise high levels of academic integrity throughout the quarter. As this is an online class, you are more responsible than ever for your own learning – cheating and plagiarism only hurt your own learning experience and will not be tolerated.

Disability Notice: If you have any special circumstances that you feel may influence your performance in this class (a diagnosed learning disability, physical disability, or anything at all that might interfere with your learning), please email or chat with me privately so that we can best accommodate you and we can create a learning environment that works for you. If you have technology issues which are preventing you from accessing our course, please let me know ASAP and we will work out a solution together.

Student Learning Outcome(s):

*Analyze contemporary mathematical problems, apply problem solving techniques using a variety of methods, and communicate the results mathematically through a variety of forms.

*Demonstrate and correctly apply basic mathematical techniques in at least five of the following ten areas: symmetry, graph theory, fractals and chaos theory, topology, number theory, geometry, combinatorics, methods of social choice, probability and statistics, economics and personal finance.

*Examine and evaluate myths and realities about the contemporary discipline of mathematics and its practitioners.