Math 44: Mathematics in Art, Culture, and Society

Spring 2025 Syllabus

- **Instructor:** Dr. Niloofar Ghorbani
- **Email:** ghorbaniniloofar@fhda.edu

- **Office Hours:** Mondays and Wednesdays, 9:00 AM – 11:00 AM or by appointment via Zoom
- **Class Times:** Tuesdays and Thursdays, 4:00 PM – 6:15 PM via Zoom in Canvas

Course Description

This course is a survey of selected topics from contemporary mathematics, including problem-solving techniques and connections between mathematics and culture. It includes a selection of introductory topics from symmetry; graph theory; chaos and fractals; topology; number theory; geometry; combinatorics and counting; the mathematics of social choice; data analysis, probability, and statistics; consumer mathematics and personal financial management.

Student Learning Outcomes

- 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.

Prerequisite

Intermediate algebra or equivalent or higher, or appropriate placement beyond intermediate algebra

Course Materials

- **Suggested Resource:** *Math in Society* by David Lippman (Open Textbook — free online)
- **Canvas:** All materials (notes, homework, tests, announcements, grades) will be posted on Canvas

Class Structure and Notes

Lectures will be online through Zoom. Blank class notes are posted to Canvas weekly. Students should download or print these notes for use during lectures. Follow along and take notes as if attending in person.

Homework

Homework is administered through Canvas and is due by 11:59 PM on the due date. Late submissions are not accepted.

Evaluation Breakdown:

Component	Weight	Date / Coverage
Homework and Discussions	20%	Ongoing via Canvas
Test 1	20%	May 6 – Lectures 1–6
Test 2	20%	May 27 – Lectures 7–11
Test 3	20%	Jun 17 – Lectures 12–17
Final Exam	20%	Jun 26 – Comprehensive

Homework Deadlines

HW #	Covers Lecture	Due Date (by 11:59 PM)
HW 1	Lecture 1 (Apr 8)	May 6
HW 2	Lecture 2 (Apr 10)	May 6
HW 3	Lecture 3 (Apr 15)	May 6
HW 4	Lecture 4 (Apr 17)	May 6
HW 5	Lecture 5 (Apr 22)	May 6
HW 6	Lecture 6 (Apr 24)	May 6
HW 7	Lecture 7 (Apr 29)	May 6
HW 8	Lecture 8 (May 1)	May 6
HW 9	Lecture 9 (May 8)	May 27
HW 10	Lecture 10 (May 13)	May 27
HW 11	Lecture 11 (May 15)	May 27
HW 12	Lecture 12 (May 20)	May 27
HW 13	Lecture 13 (May 22)	May 27
HW 14	Lecture 14 (May 29)	Jun 17
HW 15	Lecture 15 (Jun 3)	Jun 17
HW 16	Lecture 16 (Jun 5)	Jun 17
HW 17	Lecture 17 (Jun 10)	Jun 17

Grade Breakdown:

Percentage Range	Letter Grade
94.5% and above	A
89.5% – 94.4%	A–
86.5% – 89.4%	B+
83.5% – 86.4%	B
79.5% – 83.4%	B–
74.5% – 79.4%	C+
69.5% – 74.4%	C
66.5% – 69.4%	D+
63.5% – 66.4%	D
59.5% – 63.4%	D–
Below 59.5%	F

Exam Policy

- Tests will be available on Canvas between 8 AM and 10 PM on test days. Once started, you will have 100 minutes to complete each test.
- Missed tests cannot be made up. No exceptions.
- Final Exam is comprehensive and scheduled for **Thursday, June 26**.

- Internet issues or computer crashes are not valid excuses for missing deadlines.

Attendance and Participation

Attendance is expected and participation is part of your grade. Students with excessive absences may be reported.
newline **Drop Policy:** It is your responsibility to drop or withdraw. If you remain enrolled and do not participate, you will receive an F.

Disability Services

Students needing accommodations must register with DSS and ensure their accommodations are authorized. Visit `http://www.deanza.edu/dss` for more information.

Important Dates and Deadlines:

- Important Dates and Deadlines: https://www.deanza.edu/calendar/dates-and-deadlines.html
- De Anza Final exams schedule: https://www.deanza.edu/calendar/final-exams.html

Tentative Course Schedule

#	Date	Lecture / Assessment
1	Apr 8	Problem Solving
2	Apr 10	Extension: Taxes and Consumer Math
3	Apr 15	Voting Theory
4	Apr 17	Weighted Voting
5	Apr 22	Apportionment
6	Apr 24	Fair Division
7	Apr 29	Graph Theory
8	May 1	Scheduling
–	**May 6**	**Test 1 (Lectures 1–8)**
9	May 8	Growth Models
10	May 13	Finance
11	May 15	Statistics
12	May 20	Describing Data
13	May 22	Probability
–	**May 27**	**Test 2 (Lectures 9–13)**
14	May 29	Sets
15	Jun 3	Historical Counting Systems
16	Jun 5	Fractals
17	Jun 10	Cryptography and Logic
–	**Jun 17**	**Test 3 (Lectures 14–17)**
–	Jun 19	*No Class – Juneteenth Holiday*
–	Jun 24	**Final Exam (Comprehensive)**

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Office Hours:

M,W 9:00 AM - 11:00 AM Zoom