



MATH 105 - PATTERNS OF PHENOMENA

Fall 2024 Syllabus

Instructor: Seth Ireland (seth.ireland@colostate.edu)

Important dates (term is August 19 – December 6):

September 2: Labor day - no class

September 4: Last day to add or drop the course

November 8: Last day to withdraw from the course, earning a W on your transcript

November 25-29: Fall recess - no classes

Course structure: This course will consist of in-person lectures. You are expected to attend classes. There will also be an online component (see **Course website** below).

Course content: Numbers, space and dimension, symmetry, infinity, chaos and fractals, mathematics and culture, and a variety of other topics.

Textbook: We will not have an official textbook for this course. Instead, specific resources will be posted in the relevant section (found under "Modules" on Canvas) when you need them. Examples of resources we may use are YouTube videos, articles, e-books, etc.

Office hours: Office hours will be held *by appointment only*. There will be in-class time for questions and group work for projects.

Communication: Email is the best way to reach me, and I aim to respond within 2 business days. However, email is not an efficient way to discuss math, so if you have a question about the homework, you should either contact me to set up an office hours appointment or reach out to other students in the class.

Canvas: We will use [Canvas](#) for all course materials and grades. This is a great place to stay organized and know what is due when.

I will communicate important messages via announcements on Canvas. You should make sure that your settings on Canvas are set so that you receive push notifications or emails whenever I post an announcement. If you don't know how to do that, follow the directions here: <https://community.canvaslms.com/t5/Student-Guide/How-do-I-manage-my-Canvas-notification-settings-as-a-student/ta-p/434>

Grades: Your grade in the class will be calculated based on the following weights:

- Online Discussions (25%)
- Quizzes (25%)
- Projects (50%)

Note that the reference to "points" below is not equivalent to percentages. For this course, **3 points = 1 percent of total grade**.

Letter grades will be assigned according to a scale no stricter than the following:

- [90, 100] A
- [80, 90) B
- [70, 80) C
- [60, 70) D
- [0, 60) F

The GPA associated to each grade is standard according to [CSU's grading scale](#).

Online Discussions (75 points) There will be a total of 15 discussion posts (1 each week) worth 5 points each. These may have some motivating content (video, article, etc.) to spark the discussion. For each discussion post, you will earn up to 5 points for fully answering the discussion prompt. While encouraged, you will not be graded for commenting on other students' posts. Online discussions will be **due on Wednesdays** at 11:59pm.

Quizzes (75 points) There will be a total of 15 quizzes (1 each week) worth 5 points each. The quizzes will be on the content from lectures that week. Quizzes will be **due on Fridays** at 11:59pm.

Projects (150 points) Each student will be responsible for two class projects intended to explore a mathematical discovery or concept along with its impact on culture and society. Each project grade will be divided into three parts:

- 1 Project 1 Proposal (10 points)
- 2 Project 1 Progress Report (15 points)
- 3 Project 1 Presentations (50 points)
- 4 Project 2 Proposal (10 points)
- 5 Project 2 Progress Report (15 points)
- 6 Project 2 Presentations (50 points)

Deadlines and details on deliverables for each part of the projects will be made explicit in class. The proposal and progress report will be submitted via Canvas, and the presentations will be in-class presentations.

Deadlines: Due dates exist to provide structure to help you keep up with the material throughout the term. **In general, late work is not accepted.** If you have circumstances that will make it difficult to meet a deadline, please email me in advance. The outcome is typically better if you communicate an issue *before* something is due.

UNIVERSITY POLICIES AND STANDARDS

Classroom behavior and respect for diversity: Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or pronoun. Please advise me of this early in the semester so that I may make appropriate changes to my records. For more information, see the policies on classroom behavior and the student code at <https://catalog.colostate.edu/general-catalog/policies/students-responsibilities/> and <https://resolutioncenter.colostate.edu/student-conduct-code/>.

Accommodation for disabilities: If you are a student who will need accommodations in this class due to a disability or chronic health condition, I will need an accommodation letter from the Student Disability Center (SDC) before they are implemented. Please contact the SDC at <https://disabilitycenter.colostate.edu> as soon as possible to initiate the accommodation process.

Religious holidays and observances: CSU has a legal obligation to accommodate students' absences due to religious observances. For such an accommodation, it is the student's responsibility to complete the [Religious Accommodation Request Form](#) at the beginning of each semester and submit the request via the Office of the Vice President for Student Affairs website. The Dean of Students will communicate with the instructor regarding the student's absence and the student is instructed to discuss how best to ensure an accommodation related to class conflicts. For religious observances that cannot reasonably be anticipated at the beginning of the semester, students must follow the procedure above as soon as possible after the course conflict is identified. If a student knows that a particular course or section of the course will have multiple conflicts with his or her religious obligations, the student is advised to locate another course section or defer taking the course to a different semester. In the event of a conflict in regards to this policy, individuals may appeal using established CSU procedures. Instructors are advised to provide reasonable accommodations to ensure compliance with CSU's obligations. See more details regarding attendance policies at <https://catalog.colostate.edu/general-catalog/academic-standards/academic-policies>.

Discrimination and harassment: CSU is committed to providing an environment that respects the dignity and worth of every member of its community. CSU strives to create and maintain a work and study environment that is fair, inclusive, and responsible so that each member of the CSU community is treated with dignity and respect and is rewarded for relevant considerations such as ability and performance. CSU has adopted a comprehensive policy to define the types of conduct that are prohibited and to prevent harm arising from discrimination, harassment, sexual harassment, sexual misconduct, domestic violence, dating violence, stalking, and retaliation. Conduct that is discriminatory or harmful under the policy inhibits the achievement of the stated goals. All students, faculty, staff, and other persons having business with CSU are expected to know and follow this policy. Details regarding what is involved in bringing a complaint and the procedures for informal and formal resolution are available from the Office of Support and Safety Assessment for student-to-student behavior and the Office of Equal Opportunity for matters involving non-students such as faculty, staff, affiliates, or visitors and matters involving a student and non-student person. See more details at <https://catalog.colostate.edu/general-catalog/policies/discrimination-harassment/>.

Academic integrity and the honor code: This course will adhere to the [CSU Academic Integrity Policy](#) as found in the [Colorado State University General Catalog](#) and the [Student Conduct Code](#). At a minimum, violations will result in a grading penalty in this course and a report to the Office of Conflict Resolution and Student Conduct Services. See more details at <https://catalog.colostate.edu/general-catalog/policies/students-responsibilities/#academic-integrity> and <https://tilt.colostate.edu/Integrity/Pledge>.