MATH 101, Section 002

Basic Course Information

Course Name: Math in the Social Sciences, MATH 101, Section 002

Semester: Spring 2026

Credits: 3

Prerequisites/Co-requisites: None

Meetings/Times: Tuesdays and Thursdays 2:00 – 3:15 pm

Location: Military Science Building Room 200

Instructor Information

Instructor Name: Patrick Orchard (He/Him/His)

Email: Patrick.Orchard@colostate.edu

Office Location: Weber 238

Office Hours: In person or online through Teams (link on Canvas): Mondays 1:00 pm – 3:00 pm and Thursdays 11:00 am – 1:30 pm

Course Materials

Recommended (Not Required) Reading

Excursions in Modern Mathematics by Peter Tannenbaum

Mathematics for the Social Sciences by Kathryn Bollinger and Vanessa Coffelt. Found for free here: https://oaktrust.library.tamu.edu/items/7d9f5efe-b63b-4c57-8db3-91790deed00d

Linear Data by Emily King and James Wilson. Found for free here: https://lineardata.space/

Mathematics for the Liberal Arts by various authors. Found for free here: https://courses.lumenlearning.com/frontrange-mathforliberalartscorequisite1/

Materials & Equipment

Required: Academic supplies for each class (paper, writing utensil, etc.)

Recommended: Graphing Non-CAS Calculator

- TI-84: You can purchase one, or you can check out a TI-84 calculator from the library for 6 hours. More info here: https://lib.colostate.edu/technology/borrowing-technology/

- Free ONLINE Non-TI Version of TI84:
  - Apps:
    - Google Play:
      https://play.google.com/store/apps/details?id=com.incptmobis.calculatorfree&hl=en_US&pli=1
    - Apple Store: https://apps.apple.com/us/app/graphing-calculator-x84/id1247828717
  - Desmos: https://www.desmos.com/
  - Geogebra: https://www.geogebra.org/
  - Finance Math Calculator: https://www.calculator.net/finance-calculator.html

Course Description & Objectives

Upon the completion of this course, students will be able to:

- Understand the basics of how an election is decided
- Understand the basic concepts of financial math
- Understand the basics of probability and statistics
- Understand the basics of graphs theory and how it applies to the real world
- Understand the basics of vectors and how they're used in computers
- Understand the symbols and language of logic
- Understand the symbols and language of set theory

Assignment Descriptions

Participation: Part of your grade is based on good-faith participation with the course material. This means coming to class and engaging with your instructor and classmates. This will be measured, in part, through the use of iClicker. You can find more information here: https://canvas.colostate.edu/iclicker/student-information/

Homework: Homework will be assigned on Canvas and turned in through Gradescope. It will be due every other week on Thursday nights. Instructions on how to upload assignments to Gradescope are posted on Canvas.

Quizzes: Every other week, we will have a quiz in class over the previous unit. See the course schedule for (tentative) dates.

Poster Session: At the end of the semester, you will create a poster to present to your classmates. The poster session will be during the scheduled final exam time for the course. Final exams are set by the university, and for this course, that is Tuesday, 5/12, 9:40 – 11:40 am. The full schedule for final exams can be found here: https://thehub.colostate.edu/registration-records/final-exams/ . More details about the poster session will be posted on Canvas as we get closer.

Tentative Course Schedule

WEEK OF	TOPIC	ASSIGNMENT
1/19/26	Basics of Elections	Homework 0 due 1/22/26
1/26/26	Elections (con't)	Quiz 1 on 1/29/26
2/2/26	Finance Math	Homework 1 due 2/5/26
2/9/26	Finance Math (con't)	Quiz 2 on 2/12/26
2/16/26	Probability and Statistics	Homework 2 due 2/19/26
2/23/26	Probability and Statistics (con't)	Quiz 3 on 2/26/26
3/2/26	Vectors and Data	Homework 3 due 3/5/26
3/9/26	Vectors and Data (con't)	Quiz 4 on 3/12/26
3/16/26	No class (Spring Break)	
3/23/26	Graph Theory	Homework 4 due 3/26/26
3/30/26	Graph Theory (con't)	Quiz 5 on 4/2/26
4/6/26	Logic	Homework 5 due 4/9/26
4/13/26	Logic (con't)	Quiz 6 on 4/16/26
4/20/26	Set Theory	Homework 6 due 4/23/26
4/27/26	Set Theory (con't)	Quiz 7 on 4/30/26
5/4/26	Special Topics/Prepare for Poster Session	Homework 7 due 5/7/26
5/11/26	Final Exams Week	Poster Session on Tuesday 5/12/26 at 9:40 am

Morgan Library Services Desk

The Morgan Library Services Desk provides both research (ph. 970-491-1841) and technical (ph. 970-491-7276) support. In addition, you can contact a librarian for assistance at Ask Us! or find a research guide at Research Help.

CSU Principles of Community

Inclusion: We create and nurture inclusive environments and welcome, value and affirm all members of our community, including their various identities, skills, ideas, talents and contributions.

Integrity: We are accountable for our actions and will act ethically and honestly in all our interactions.

Respect: We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse, and the advancement of knowledge.

Service: We are responsible, individually and collectively, to give of our time, talents, and resources to promote the well-being of each other and the development of our local, regional, and global communities.

Social Justice: We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice, and to uphold the laws, policies and procedures that promote justice in all respects.

Course Policies

Conduct Policy: While in class, it is expected that each student is respectful of their fellow students and instructor, and acting in a way that is not consistent with a positive, inclusive, welcoming environment is not tolerated. Consequences, including grade penalties or removal from the space, may be applied in the event of a violation. This includes me asking a disruptive student to leave the classroom. You are not allowed to record your fellow students or instructor, unless by SDC accommodation.

If there is another person who is, in any way, making you feel uncomfortable, unwelcome, disrespected, or unsafe in class, please notify the instructor immediately.

Academic Honesty Policy: The University Policy on Academic Integrity is enforced in this course, and the academic honesty penalties are predicated on a "less than zero" philosophy that it is better to not hand in an assignment at all than it is to hand it in dishonestly. It is typically not possible to pass the course after an infraction. Please also be advised that potential academic honesty infractions are assessed on a preponderance of evidence basis and in a factual dispute between a student and an instructor or exam proctor, the burden of proof typically would rest with the student. We strongly advise you not to run afoul of the honesty code—it is simply not worth it.

All work submitted must be reflective of your own understanding. Uploading questions online or using a solution which was either obtained online or authored in the main by another person, service, or AI is strictly prohibited and results in an automatic F for the semester. You also cannot resubmit work from a previous semester, even if it was done honestly initially. Submitting work that is excessively similar to that of another student's, or that you cannot justify or explain adequately afterward, is also considered academic dishonesty on the part of all students involved. This includes exam and homework solutions that the student cannot, within reason, explain or reproduce later.

Please note that making misrepresentations to course personnel, providing fraudulent or misleading documentation, or intentionally creating a situation where adherence to the academic honesty policies cannot be assessed are also a violation of the honesty code.

Late/Makeup work: Late work is not accepted in this course, except for university approved excuses. If you need to miss class, please email your instructor within 2 business days of the missed class. If you have extenuating circumstances that require a longer absence from class, please also contact Student Case Management. They can help you generate the required documentation for this class as well as your others. You can reach Student Case Management here: https://studentcasemanagement.colostate.edu/ .

Grading Policy

ASSIGNMENT	GRADE PERCENTAGE
Participation	30%
Homework	20%
Quizzes	20%
Poster Session	30%

I do not offer any additional or alternative credit opportunities at the end of the semester. I do not adjust grades based on the requirements of any given major, scholarship, planned future coursework, or graduation schedule. Precise letter grade cut-offs will be determined at the end of the semester, but are expected to be no stricter than the following:

Letter Grade	Percentage
A	90% – 100%
B	80% – 89%
C	70% – 79%
D	60% – 69%
F	0% – 59%

Additional Syllabus Information and Policies

Please add to your syllabus this QRN code and/or short link (https://col.st/2FA2g) with a statement informing students that the linked page provides policies relevant to their courses and resources to help with various challenges they may encounter.