

COURSE DESCRIPTION	Survey of mathematical developments from ancient times to present. Emphasis on originators, origins and consequences of significant mathematical contributions.
COURSE FORMAT	In-Person, CEB 254 TuTh 11:00am–12:20pm
INSTRUCTOR INFORMATION	Sungju Moon, PhD Primary Contact: Use the Inbox tool within Canvas Office Location: Dawson 223 Phone: (702) 992-2725 Email: sungju.moon@nevadastate.edu Instructors use the Canvas Inbox and announcements to communicate about course-specific topics. All other official University communication is conducted using Nevada State University-issued e-mail addresses (e.g., @students.nevadastate.edu) in order to comply with the Family Educational Rights and Privacy Act (FERPA). If you need assistance accessing your NS e-mail account, contact the NS Support Center at (702) 992-2400, menu option 3, or online at NS Support Center . For more about this, see the Student Responsibilities page.
OFFICE HOURS	MoWeFr 4:00–4:50pm or whenever my office door is open Online meetings by appointment
E-MAIL RESPONSE TIME	You can generally expect a response to emails within 24-48 hours (or slightly longer over weekends or holidays). Feedback for completed discussions, quizzes, and assignments depends on the length and complexity of the activity and could take up to 10 days. For questions on the status of a completed assignment, discussion, or test please contact me.
REQUIRED TEXT(S)	Stillwell, J., <i>Mathematics and Its History</i> , 3rd Ed., Springer. Digital access via the university library website at URL: https://link.springer.com/book/10.1007/978-1-4419-6053-5
MATH HISTORY BOOKSHELF & LIBRARY SESSION	I will operate our very own <i>Math History Bookshelf</i> out of my office, Dawson 223. You are free to check out the books as long as they are returned by the end of the day. Other digital resources are made available through the university library. We will hold a class session dedicated to navigating library resources (arr. Prof. Grace Kim).
LEARNING OUTCOMES	This is a participation-based comprehensive survey course focusing on the following key aspects concerning history of mathematics: (1) the people (i.e., mathematicians, <i>the driver</i>), (2) the societal contexts/circumstances influencing mathematical developments (<i>the road</i>), (3) the development of mathematical thoughts, ideas, and methods (<i>the vehicle</i>), and (4) the questions, problems, paradoxes, and puzzles that motivated such developments (<i>the fuel</i>).

After finishing this course, you will be able to

- Participate in informed discussions about the history of important mathematical problems and major branches of mathematics.
- Recognize recurring historical patterns in the progression of mathematical ideas, fostering the ability to envision future developments in mathematics.
- Engage with historical materials related to mathematics, including original papers, biographical accounts, and other expository documents, thereby deepening your understanding of the subject.
- Identify and contemplate the problems integral to significant developments in mathematics.

CLASS

See Page 8 of the course syllabus for the tentative course calendar.

SCHEDULE

All dates are subject to change.

ASSIGNMENT

In-Class Participation (20%): This is a participation-based course, and without a sufficient level of participation, you will not gain very much out of it by the end of the semester. From Day 1, it will become apparent that everyone has roles to play in all of the activities the class will partake in—be it the discussions, editing the wiki entries, participating in the reacting-to-the-past game, or presenting your midterm projects.

DESCRIPTION

To ensure a welcoming class environment, we will establish *class norms*, which are especially relevant during in-class discussion sessions. We will start with the following norms but will discuss as class which entries to add or remove:

& DUE DATES

- Recognize contributions
- Be present
- Critique ideas, not people
- Treat everyone with respect
- Normalize time to think and process
- Other norms decided by the class

Twice in the semester, you will be asked to self-evaluate your participation level as well as comment on how well these expectations are being met by the class.

Weekly Reading Reflections (20%): At the end of each week's discussion session, we will identify the relevant reading materials (mostly from the textbook) for the next discussion session. You will get to declare your reading goals for the week. This is to ensure that we cover a comprehensive list of available materials (one person cannot read them all) while at the same time that the readings share a common theme to build discussions upon. The in-class discussions will center around these reading reflections. The weekly reading reflections do not need to be long but will require the following elements:

- Basic identifying information about the reading material (title, author, the type of reading if not textbook, etc).
- A short summary of the reading (can be 1-sentence or less).
- Some mathematical content (if applicable).
- Your thoughts after doing the reading including a relevant follow-up question.

Wiki Projects (20%): Each member is asked to participate in the wiki projects by doing the following:

1. Serve as the editor for a category (10%)—each member will be assigned a wiki category to edit. Your job as the editor is to solicit contributions (wiki entries), recruit reviewers, make final edits and formatting adjustments, and ensure that your contributors (both the authors and reviewers) get acknowledged. You will periodically give updates to the class regarding the current status of your wiki document on a rotating basis.
2. Contribute to the wiki projects at least once per week (10%) by either (1) drafting a wiki entry or (2) reviewing a wiki entry. A wiki entry needs to be at least 1 paragraph length and will need proper citations. Using a large-language model (LLM) generative AI at the drafting stage is highly discouraged. Reviewing a wiki entry entails ensuring the accuracy of the contributed piece, verifying all sources and citations, and communicate with both the author and the editor about necessary revisions.

Midterm Projects (20%): There will be two midterm projects:

1. Thematic Paper (10%): In this project, you will explore a significant theme impacting our narratives in the history of mathematics (e.g., women in mathematics, nonwestern developments and contributions, future of mathematics, mathematics and ethics, etc). You will choose a broad theme early in the semester, and your specific topic/thesis needs to be finalized by the designated due date (see Page 8 for the course schedule). The deliverables include a 3–5 page paper and an in-class presentation.
2. Biography of a Mathematician (10%): In this project, you will pick a mathematician or a group of mathematicians and study their work, life, and legacy. The deliverables include a 3–5 page paper and a digital poster to accommodate different media types or modes of expression such as a QR code link to a video introduction or an epic poem dedicated to the mathematician.

Paper Guideline—Below are the minimum requirements for your midterm project paper to be acceptable for grading.

- Have a clear focus (thesis statement) and a logical flow rather than simply listing factual statements
- Include relevant mathematics in the form of short proofs, proof sketches or elegant examples
- (history–math interactions) Reflect on how mathematics impacted history and how history impacted mathematics
- (inter- and intra-relations) Elaborate on how the chosen topic impacted other branches of mathematics and/or other disciplines entirely (e.g., physics, etc)
- Fully cite all relevant sources
- Include relevant visualizations such as diagrams, tables, (mathematician’s) portraits, and figures

Reacting-to-the-Past Game (20%): At least 4 class sessions will be dedicated to designing and play-testing a *reacting-to-the-past game* currently in development. Prof. Chad Curtis of Data Science will help us during these sessions. Some audience members may also get recruited from outside the class (fellow students). There will be several assignments associated with the game.

EXAMS

There are no exams in this course.

LATE POLICY

When students miss work for medical and/or personal reasons, they should access the [Student Absence Notification System](#).

Most of the assignments are of the “regular check-ups” type (*weekly* reading reflections, *weekly* wiki contributions, rough draft deadlines for midterm papers, etc). For this reason, late submissions will not be accepted unless a special permission is granted by the instructor.

GRADING CRITERIA

Your grade will be determined by the following rubric:
(Course Point Totals)—100%

- In-Class Participation (20%)
- Reading Reflections (20%)
- Wiki Projects (20%)
- Midterm Projects (20%; 10% each)
- Reacting-to-the-Past Game (20%)

Grading Scale (Letter Grade and Point Range):

A	93% or higher	C	73%–76.99%
A-	90%–92.99%	C-	70%–72.99%
B+	87%–89.99%	D+	67%–69.99%
B	83%–86.99%	D	63%–66.99%
B-	80%–82.99%	D-	60%–62.99%
C+	77%–79.99%	F	less than 60%

Accessing Grades and instructor feedback

To access your grades and find all of the instructor’s feedback, click on Grades in the course navigation menu. Scroll through the list until you find the new graded assignment (indicated by the blue dot to the left of the assignment name). Then click on the assignment name. You will see your grade. Below it you can click on Show Rubric to see the marked up rubric. Click on the paper title if you want to download the original document. (The instructor’s marks or comments will not appear on the downloaded document.) Click on the box to the right of the paper title to see the Turnitin report. Click on View Feedback to see the paper marked up with the instructor’s comments/corrections in DocViewer. The instructor’s feedback is on the right. [Accessing Grades](#) will take you step-by-step through how to find all instructor feedback and see the marked-up paper and rubric.

STUDENT
RESPONSI-
BILITIES

Students are responsible for reading, understanding, and abiding by the policies listed on the [Student Responsibilities](#) page and LASB-specific policies, including, but not limited to:

- Americans with Disabilities Act (ADA) Accommodations
- Student Email Policy
- Diversity and Inclusion Statement
- Appropriate Online and Video-Conferencing Behavior
- Video- or Audio-Recording Lectures
- Withdrawing from a Course
- Academic Resources
- Student Absence Notification
- [Enrollment Cancellation for Non-Attendance](#)
- Technical Support and Minimum Technical Requirements
- Military and Veteran Students
- [LASB Academic Conduct Policy](#)

Plagiarism, cheating, and copyright infringement

Plagiarism can involve directly quoting, summarizing, or paraphrasing the work of others without specifically citing sources, or handing in work that is not your own. For more on this see the [Copyright, Plagiarism, and Citing Sources](#) page.

Cheating can involve deception about your own work or about the work of someone else, and can include unauthorized giving or receiving of information in exams or other exercises or assessments. The use of books, notes, mobile devices, or other reference materials and/or collaboration with other students is strictly prohibited on all quizzes and exams unless specific permissions have been given by the professor. Violating this rule is considered cheating. All assignments, quizzes, and exams, for both in-person and online classes, are to be completed by each student individually, unless otherwise documented by the instructor.

Copyright infringement includes sharing or posting course materials on external websites or other locations; NS instructors' course materials are their intellectual property and are protected under copyright.

Detailed explanations and examples of plagiarism, cheating, and other forms of academic misconduct can be found in the [LASB Academic Conduct Policy](#) and in the [Academic Standards](#) section of the NS Student Code of Conduct. *You are responsible for reading, understanding, and abiding by these policies.*

The grade of 0 or F may be assigned for any assignment, quiz, or exam in which plagiarism or cheating is discovered; depending on the severity of the incident (including whether the student has previous incidents), a grade of F may be assigned in the course and a Student Conduct charge may be filed. Evidence of such dishonesty will be kept on file, and will not be returned to the student. Instructors have the responsibility to report such incidents to the Dean and the NS Conduct Office. Serious penalties may be imposed, depending on the nature of the incident.

Turnitin

By taking this course, you agree that all required assignments may be submitted to Turnitin for detecting plagiarism. All submitted papers will be included as source documents in the Turnitin reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin service is subject to the [Turnitin End-User License Agreement](#) posted on the Turnitin site. If you do not agree, contact your instructor immediately.

Artificial Intelligence

Use Only With Acknowledgment. Students are allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Bard) on assignments in this course if that use is properly documented and credited. For example, text generated using ChatGPT version 4 (ChatGPT-4) should include a citation such as:

“ChatGPT-4. (YYYY, Month DD of query). “Text of your query.” Generated using OpenAI. <https://chat.openai.com/>”

Material generated using other tools should follow a similar citation convention. Students are responsible for ensuring the accuracy of any information provided by an AI tool.

Source: Adapted from the University of Delaware:

<https://ctal.udel.edu/advanced-automated-tools/>

STUDENT
SUCCESS
RESOURCES

At some point in the semester, you may require assistance for a variety of issues. Here is a brief list of helpful resources:

- [Academic Advising Center](#)
- [Academic Success Center](#)
- [Writing Center](#)
- [Student CARE Team](#)
- [Financial Aid Office](#)
- [Mental Health Counseling](#)

The [Academic Resources](#) page has various academic resources including the academic calendar; disability accommodations; library guides; plagiarism, copyright, and citation information; and veteran concerns.

If life circumstances are making it difficult for you to succeed, please reach out to me and let me know. I am willing to work with you to devise a plan for success or make recommendations for other support services on campus. For example, I may connect you with an Academic Advisor who can develop a personalized success strategy that will keep you on track to graduate and discuss any impacts to your financial aid. You can also contact Academic Advising directly at (702) 992-2160 or at studentsuccess@nevadastate.edu.

Emergency CARE Services

Emergency CARE Services—If you are struggling with hunger, unstable housing, safety, mental health worries or any other concerns, contact case manager, Cassandra Crevling. Together, we can help meet those needs. E-mail: studentwellness@nevadastate.edu | Call: (702) 992-2514 | Website: 🌐 <https://nevadastate.edu/studentwellness/>

ADDENDUM: IRB PROTOCOL

This semester, I will be conducting a study looking at teaching and learning. The purpose of the study is to determine factors that influence teaching effectiveness and learning. Your participation in this study will last for the duration of the current semester and will include activities no different from the regular activities you would engage in as part of the course. If you would like more information, please ask. If you have any concerns, you may contact the Nevada State IRB at irb@nevadastate.edu.

Participation is voluntary. You may choose not to participate, or may withdraw at any time; this will not affect your grade or standing in the course. If you would like to opt out of the study, talk to me as soon as possible. I will provide alternate assessment opportunities or provide a way to remove your data from the study. Otherwise, you consent to participate in the study by continuing in this course.

If you are under 18 years old, inform your instructor so your work can be excluded from the study.

Course Schedule

ALL DATES ARE SUBJECT TO CHANGE

Date	Agenda	Assignments Due[†]
Tue, Jan 16	Introduction, Course overview, Role assignment, Class norms	
Thu, Jan 18	Discussion: Greek mathematics	
Tue, Jan 23	Discussion: Greek mathematics (cont.)	
Thu, Jan 25	Discussion: infinity and calculus	Paper 1 Topics
Tue, Jan 30	Discussion: infinity and calculus (cont.)	
Thu, Feb 1	Library Session (CEB 213)	
Tue, Feb 6	Discussion: algebra	
Thu, Feb 8	Discussion: algebra (cont.)	
Tue, Feb 13	Discussion: number theory	Paper 1 Rough Draft
Thu, Feb 15	Discussion: number theory (cont), geometry	
Tue, Feb 20	Discussion: geometry (cont.)	
Thu, Feb 22	Midterm Project 1 Presentations	Paper 1 Presentation
Tue, Feb 27	Discussion: probability & statistics	
Thu, Feb 29	Discussion: probability & statistics, Intro. to reacting game	
Tue, Mar 5	Game Day 1: Role Sheets, Conference	
Thu, Mar 7	Game Day 2: Peer Review Lab	Paper 1 Final Draft
Tue, Mar 12	Spring Break	Self-Evaluation 1
Thu, Mar 14	Spring Break	
Tue, Mar 19	Game Day 3: Debate	
Thu, Mar 21	Game Day 4: Language Analysis Lab	
Tue, Mar 26	Discussion: complex variables	Paper 2 Topics
Thu, Mar 28	Discussion: complex variables (cont.)	
Tue, Apr 2	Discussion: topology	
Thu, Apr 4	Discussion: topology (cont.)	Paper 2 Contribution
Tue, Apr 9	Discussion: dynamical systems	
Thu, Apr 11	Discussion: dynamical systems (cont.)	
Tue, Apr 16	Discussion: logic & foundations	
Thu, Apr 18	Discussion: logic & foundations (cont.)	Paper 2 Rough Draft
Tue, Apr 23	Discussion: combinatorics	Wiki Final Version
Thu, Apr 25	Discussion: combinatorics, AI in mathematics	Self-Evaluation 2
Tue, Apr 30	Celebrating Mathematicians: Poster Extravaganza	Poster Upload
Thu, May 2	Showcasing of the Wiki Projects, Trivia Day	Paper 2 Final Draft

[†]Does not include weekly reading reflections or regular status updates on wiki projects.