CoSM Class Syllabus/Policy
MATH 4180: Mathematical Explorations II, Fall 2023

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Office Hours: MWF 9–9:50, TR 2–3:15, or by arrangement; MW 1:30–2:30, TR 10–11, or by arrangement
Department: Mathematics and Statistics
Class meeting time/place: Section 1: R 3:30–4:45, Math 209

Course Description: Student participation in general and specific topics in mathematics; separate section for mathematics teacher certification. Because enrollment levels do not justify a separate section for teacher certification, activities will be adjusted to best benefit students seeking mathematics teacher certification. Course prerequisites: MTH 4330 or concurrent enrollment. This course is designed to be taken in a student’s last year of the Bachelor of Science in mathematics program.


Program Learning Outcomes (PLO): Students graduating from SFASU with a B.S. Degree and a major in mathematics will:

1. Written Communication - SFA Mathematics majors communicate mathematical ideas effectively in written form, integrating mathematical notation correctly and consistently.

2. Verbal Communication - SFA Mathematics majors communicate mathematics effectively to diverse audiences.

3. Mathematical Maturation - SFA Mathematics majors grow from a computational understanding of mathematics to an integrated approach which includes critical thinking proficiency, computational facility, conceptual understanding, and problem-solving persistence.

Student Learning Outcomes (SLO): In MTH 4180, students will demonstrate (as appropriate to topic):

1. Comprehension of core mathematical concepts. [PLO 1]

2. Procedural fluency. [PLO 2]

3. Competencies in using various mathematical tools for problem solving. [PLO 4]

4. Sound mathematical reasoning. [PLO 1,3]

5. An understanding of the development and connectedness of mathematical ideas. [PLO 1]

6. Proficiency in communicating mathematics in a format appropriate to expected audiences. [PLO 5]
Course Requirements:

- **Presentations on a nonstandard mathematical problem** begun in class and continued on your own. Your work on this problem and its presentation will be the main focus of this course. Your presentation will be given twice; the second presentation (at least two weeks later) should incorporate feedback you receive on your first presentation. Your presentation should incorporate slides (PowerPoint, Beamer or other) and should last about 10–12 minutes, plus time for questions from the audience. Expectations are listed below in the “Grading Policy” section. You should expect to meet with the professor regarding your problem, and to practice your presentation before giving it to the class. Mathematics faculty and students are encouraged to attend our presentations, and your presentations will be videotaped.

- **Written work** on your chosen problem to accompany your presentation. This should include neat, detailed mathematical work to support claims and conclusions made during your presentation.

- **Providing feedback on your peers’ presentations.** Written rubrics to turn in will be provided by the instructor.

- **Reading, responding to, and discussing the required text in class.**

- **D2L access:** You will be required to access SFAs Learning Management Software (at https://d2l.sfasu.edu) periodically to access course materials. This will include viewing and a quiz on *Technically Speaking*, a series of videos about how to give an effective mathematics presentation.

- **In-class problem-solving activities**, designed to foster critical thinking, perseverance, and synthesis of different types of mathematical information into one endeavor. Active engagement in these activities is expected. These problems will be assigned to students to present, twice, near the end of the semester.

- **Attendance at three extracurricular mathematical activities**, which will include attendance at two departmental colloquia, and two other out-of-class activities, which may include the Texas Undergraduate Math Conference, math teachers’ circle meetings, department colloquia, taking the Putnam exam, or other activities. Math club and Pi Delta Tau meetings are excluded. You will be expected to turn in a one-page (typed, 12-point font, double-spaced) reflection for each activity.

- **Resumé critique** through SFA Career Services.

- Final Exam Week Meeting, 2 hours, occurring Thursday, December 14th from 1–3pm (unless rescheduled). While there will be no final exam, presentations will be given during this time.

- **Initiative to seek help outside of class**, in addition to required appointments with the professor, may be necessary in order to succeed in the course.
**Course calendar/outline:** (Calendar subject to change)

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Course Orientation/Introductions, Problem-solving activity</td>
</tr>
<tr>
<td>2</td>
<td>Problem-solving activities</td>
</tr>
<tr>
<td>3</td>
<td>Problem-solving activities</td>
</tr>
<tr>
<td>4</td>
<td>Problem-solving activities</td>
</tr>
<tr>
<td>5</td>
<td>Problem-solving activities</td>
</tr>
<tr>
<td>6</td>
<td><em>Technically Speaking</em> due; presentation sign-ups; career services; <em>5 Elements</em>, ch 0</td>
</tr>
<tr>
<td>7</td>
<td>Visitor presentation; <em>5 Elements</em> ch 1,2</td>
</tr>
<tr>
<td>8</td>
<td>Visitor presentation; <em>5 Elements</em> ch 3,4</td>
</tr>
<tr>
<td>9</td>
<td>Visitor presentation; <em>5 Elements</em> ch 5</td>
</tr>
<tr>
<td>10</td>
<td>First presentations</td>
</tr>
<tr>
<td>11</td>
<td>First presentations</td>
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<tr>
<td>12</td>
<td>First presentations</td>
</tr>
<tr>
<td>13</td>
<td>Thanksgiving Holiday—no class</td>
</tr>
<tr>
<td>14</td>
<td>Final presentations</td>
</tr>
<tr>
<td>15</td>
<td>Final presentations</td>
</tr>
<tr>
<td>16</td>
<td>Final presentations</td>
</tr>
</tbody>
</table>

**Grading Policy:** This course is graded on an A–F scale; grades are based on attendance, satisfactory completion of assignments, participation in class activities, and the quality of the final presentation, including incorporation of feedback from the first presentation. *Late work will not be accepted and there is no extra credit.*

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>All classes attended, all assignments completed satisfactorily, adequate participation, weak presentation</td>
</tr>
<tr>
<td>C</td>
<td>All of the above, adequate participation, adequate presentation</td>
</tr>
<tr>
<td>B</td>
<td>All of the above, good participation, good presentation</td>
</tr>
<tr>
<td>A</td>
<td>All of the above, good participation, excellent presentation</td>
</tr>
<tr>
<td>F</td>
<td>Otherwise</td>
</tr>
</tbody>
</table>

The expectations for participation include active work on problems in class, thoughtful and constructive feedback on other students’ presentations, as well as appropriate contributions to the book discussion.

The expectations for student presentations are as follows:

- **Presentation 1:**
  - Complete, self-contained overview of problem and solution
  - Correct and thorough mathematical treatment of the assigned problem
  - Accurate communication of mathematical ideas
- Preliminary practice meeting with instructor at least week prior to first presentation; submit slides 24 hours in advance of meeting
- Slides contain no errors
- Time is around 15 minutes (neither too long nor too short)
- Fields questions from audience well
- Demonstrates ample preparation
- Submits written work to accompany the presentation

• Interim: Follow-up meeting with the instructor within a week of the first presentation to discuss feedback; view your presentation video carefully in advance of meeting

• Presentation 2: All of the above, and
  - Incorporates feedback from the first presentation
  - Does not reference the first presentation

Attendance Policy: Attendance and participation in class are expected, and absences must be approved beforehand; if you must miss class, contact your instructor as soon as possible. Most of our class time will be spent in problem-solving investigations, visitor presentations, book discussions, and student presentations. Learning within this framework requires active participation.

Academic Integrity (4.1): The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for oneself, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.

Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.
Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially.

**Withheld Grades (Semester Grades Policy A-54):** Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. For additional information, go to [https://www.sfasu.edu/policies/course-grades-5.5.pdf](https://www.sfasu.edu/policies/course-grades-5.5.pdf).

**Students with Disabilities:** To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations.

For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/)

**Student Wellness and Well-Being:** SFA values students overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students mental health and wellness. Many of these resources are free, and all of them are confidential.

**On-campus Resources:**
The Dean of Students Office (Rusk Building, 3rd floor lobby)
[www.sfasu.edu/deanofstudents](http://www.sfasu.edu/deanofstudents)
(936) 468-7249
dos@sfasu.edu

SFASU Human Services Counseling Clinic (Human Services Room 202)
[www.sfasu.edu/humanservices/139.asp](http://www.sfasu.edu/humanservices/139.asp)
936-468-1041

The Health and Wellness Hub ("The Hub") Located at the corner of East College and Raguet Streets
To support the health and well-being of every Lumberjack, the Health and Wellness Hub offers
comprehensive services that treat the whole person mind, body and spirit. Services include:

- Health Services
- Counseling Services
- Student Outreach and Support
- Food Pantry
- Wellness Coaching
- Alcohol and Other Drug Education

www.sfasu.edu/thehub
(936) 468-4008
thehub@sfasu.edu

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
National Suicide Crisis Prevention: 9-8-8
Suicide Prevention Lifeline 1(800) 273-TALK (8255)
Crisis Text Line: Text HELLO to 741-741
Math 4180 – Seminar in Mathematics II
Course Syllabus

Course description: One to three conference hours per week. Student participation in general and specific topics in mathematics; separate section for mathematics teacher certification. May be repeated for credit on a different seminar topic with departmental approval. Prerequisites: MTH 4330 or concurrent enrollment

Credit hours: 1 to 3

Credit hours: 3

The following is an excerpt from SFA Policy 5.4:

The federal definition of a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or 10 to 12 weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time, or;

2. At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

To this end, all students in courses offered by the Department of Mathematics and Statistics that wish to be successful should plan to spend a minimum of two hours outside of class for every credit hour associated with this course. Expected activities to be completed in the time outside of class include reviewing notes from previous class meetings, reading assigned course resources, completing all assigned exercises and projects, and performing periodic assessment preparation.

Course Prerequisites and Corequisites: MATH 4330 or concurrent enrollment

Outline of Suggested Topics: Topics are dependent upon the seminar. Textbook and reading materials will be chosen according to selected seminar topics.

A sample timeline for a seminar for mathematics teachers:

- Professional requirements and responsibilities 10%
  - Texas Essential Knowledge and Skills
  - NCTM Principles and Standards for School Mathematics
  - Other relevant national reports

- Mathematics content and historical connections 30%
  - SBEC beginning teacher standards
  - Areas of special concern in school mathematics
  - Historical development of mathematical ideas with appropriate classroom connections.

- Case studies and student presentations 60%
  - Case study investigations with interactive class discussions
  - Student presentations on assigned topics.

Student Learning Outcomes (SLO): Students will demonstrate (per program learning outcomes, as appropriate for the chosen seminar topic):
1. Comprehension of core mathematical concepts. [PLO 1,2,3]
2. Procedural fluency. [PLO 1,2,3]
3. Competencies in using various mathematical tools for problem solving. [PLO 1,2,3]
4. Sound mathematical reasoning. [PLO 1,2,3]
5. An understanding of the development and connectedness of mathematical ideas. [PLO 1,2,3]
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**Program Learning Outcomes (PLO):** Students graduating from SFA with a B.S. Degree and a major in mathematics will:

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**Withheld Grades Semester Grades (SFA Policy 5.5)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which
they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C. For additional information, go to https://www.sfasu.edu/policies/course-grades-5.5.pdf.

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936.468.4008
thehub@sfasu.edu

Crisis Resources:
- Burke 24-hour crisis line: 1.800.392.8343
- National Suicide Crisis Prevention: 9-8-8
- Suicide Prevention Lifeline: 1.800.273.TALK (8255)
- Crisis Text Line: Text HELLO to 741-741

Acceptable Student Behavior

www.sfasu.edu
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom.

Date of document: 08/23/2023