CoSM Class Syllabus/Policy
MTH 463: Seminar in Mathematics, Fall 2018

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Office: Math 306
Office Hours: MTWRF 9:30–10:30, M 2:30–3:30, TR 1:30–2:30
Department: Mathematics and Statistics
Class meeting time/place: Section 2: W 3–4:15, Math 357

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 439 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. Demonstrate comprehension of core mathematical concepts. (notion of theorem, mathematical proof, logical argument)

2. Execute mathematical procedures accurately, appropriately, and efficiently. (calculus, algebra, routine, nonroutine, applied)

3. Apply principles of logic to develop and analyze conjectures and proofs. (quantifiers, breaking down mathematical statements, counterexamples)

4. Demonstrate competence in using various mathematical tools, including technology, to formulate, represent, and solve problems. (calculus tools, algebra tools, applied tools, nonstandard problem solving)

5. Demonstrate proficiency in communicating mathematics in a format appropriate to expected audiences. (written, visual, oral)

Student Learning Outcomes (SLO): In MTH 463, 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 15 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.

- *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 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. For students preparing for a career in secondary teaching, one of these activities must be a teaching certification preparation meeting (time and place to be determined).

- *Resumé critique and mock interview* through SFA Career Services.

- Final Exam Week Meeting, 2 hours, occurring Friday, 14 Dec, 10:30–12:30. 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 activity (cont’d), examples</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>Technically Speaking due; presentation sign-ups; visitor presentation; 5 Elements, ch 0,1</td>
</tr>
<tr>
<td>7</td>
<td>Visitor presentation; 5 Elements ch 2,3</td>
</tr>
<tr>
<td>8</td>
<td>Visitor presentation; 5 Elements ch 4,5</td>
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<tr>
<td>9</td>
<td>Alternate activity</td>
</tr>
<tr>
<td>10</td>
<td>3 presentations</td>
</tr>
<tr>
<td>11</td>
<td>4 presentations</td>
</tr>
<tr>
<td>12</td>
<td>3 presentations</td>
</tr>
<tr>
<td>13</td>
<td>Thanksgiving Holiday—no class</td>
</tr>
<tr>
<td>14</td>
<td>Alternate activity</td>
</tr>
<tr>
<td>15</td>
<td>4 presentations</td>
</tr>
<tr>
<td>16</td>
<td>6 presentations during final exam time: Fr, 14 Dec, 10:30–12:30</td>
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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>
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<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:
  - Accurate mathematics
  - Complete, self-contained overview of problem and solution
  - 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

• 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
  – Submits written work to accompany the 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 (A-9.1): Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit.

Read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

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. 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.

**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/)

**Acceptable Student Behavior:** 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 D-34.1). 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. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Please be respectful of your fellow students and your instructor. Cell phone use and texting are not allowed in class. Remember to turn your cell phone off or place it in quiet mode before entering the classroom.