

**MA 360: History of Mathematics**  
**Alabama School of Math and Science**  
**Classroom/Office:** S201  
**Web site:** mathemartiste.com  
**Office Hours:** Mon, Wed, Fri 10:00 (3<sup>rd</sup> per) & 1:45 (7<sup>th</sup> per); Wed 3:45 (9<sup>th</sup> per/"after school")  
**Math Lab (free tutoring):** Sunday-Thursday 6:30-8:30pm in S201

**Spring 2018 Syllabus**  
**Instructor:** Sarah Brewer  
**Office Phone:** 251.441.2127  
**Email:** sbrewer@asms.net (best way to contact me)

**Course Description:** Historical survey of the general development of mathematics with a balance of historical perspective and mathematical structure. This course features a significant writing component.

**Prerequisite:** Differential Calculus or permission of the instructor.

**Text:** Katz, *A History of Mathematics: An Introduction*, 3<sup>rd</sup> edition. **Coverage:** Chapters 1-23

**Required Materials:** Notebook with four clearly defined sections:

1. Handouts – This section should include the syllabus, photocopies of supplementary texts, or any other materials that are distributed in class that do not fall into another category.
2. Notes – This section should include any notes taken by the student from readings, class discussions, clearly labeled with the date and section or topic title, ordered according to date.
3. Problem Solving – This section should include problem sets from the end of each chapter. These should be labeled neatly with your name, date, textbook chapter & section and problem numbers.
4. Writing – This section should include hard copies of papers submitted for discussion questions.

**Assignments:**

**“Intelligent Sentences”:** To facilitate class discussion, students are expected to read the week’s chapters before class on Monday. Every Monday and Thursday, students will submit “two intelligent sentences” based on two different parts of their reading of the assigned chapter. These will be submitted at the beginning of class, peer-graded in the last 5 minutes of class, then turned in to the instructor.

Sample good sentences and not-so-good sentences (from J. Grabiner):

1. Leibniz, inventor of calculus, lived in Germany.
2. Leibniz’s major contribution to calculus was really his mathematically suggestive notation, since conceptually Newton’s calculus would have been good enough.
3. Euclid was an important predecessor of Archimedes, who drew on the work of Euclid who lived earlier.
4. Although both Euclid and Archimedes gave logical proofs in geometry, Archimedes was willing to use less rigorous methods to discover the non-obvious results he later proved.

Peer grading: Assign each “sentence” a letter grade, and write a brief comment explaining your grading, such as:

A grade – You’ve explained clearly how proof and problem-solving interact in the work of Archimedes.

B grade – Deals with substantive issues but not clearly enough worded—not clear what you meant by “the way Archimedes approaches mathematics”?

C grade – These are just individual facts that one could look up.

D grade – You didn’t address the actual reading, but just rephrase the title of the first section of the chapter.

F grade – This is a blank piece of paper.

These sentences will constitute 10% of your grade, and doing them will help you to intelligently participate in class discussions. Try to enlighten your peer grader. Note that this is ultimately a pass/fail assignment; peer grades are for your information.

**Problems:** Every Thursday at the start of class you will submit the solution to three problems of your choosing from the current week’s reading. You must work at least one from each chapter, and it is suggested and valuable for you to choose the hardest problems you can reasonably do. Do not discuss this assignment with another student. If you need help, see your instructor.

**Writing:** Every other Friday, you will submit via turnitin.com a response to one of the discussion questions in the previous two weeks’ reading. Pick something that interests you. “Discussion questions” are the last few problems in each section, and typically refer you to an outside source. These should be written up formally, properly cited in a style of your choosing (just be consistent), and will be graded by the instructor according

to the short paper grading rubric. Do not discuss this assignment with another student, unless you are having a Writing Lab proctor proofread your paper for clarity and grammar. If you need help with the mathematics, see your instructor. Note that any files submitted digitally should have your full name and the assignment title in the file name, e.g. brewersarah\_ch1discussion.docx or brewersarah\_ch2problem21.pdf.

**Final Presentation:** At the end of the term, you will turn one of your discussion essays into a 10-minute presentation that you will give during our Final Exam period.

<b>Grade determination:</b>	# of submissions	Points each	Total points	Percentage of Final Grade
“Intelligent sentences”	20	10	200	10%
Problems	Best 10/11	90	900	45%
Discussion Writing	5	100	500	25%
Final Presentation	1	400	400	20%

**Make-up policy:** Any graded assignments not submitted due to unexcused absence will receive a grade of zero. Assignments due during a student’s excused absence must be turned in within three days of the student returning to class.

**Cell phone policy:** Phones should be SILENT or OFF (not on vibrate) and away. I reserve the right to confiscate any phone that I deem a distraction.

**Attendance and Tardiness Policy:** Three tardies count as one unexcused absence. A student with three unexcused absences may be assigned a grade of WF for the course. Students are responsible for acquiring any missed notes and assignments.

**Tentative Topic & Homework Schedule**

Week 1 – February 26 – March 2

- Due Mon: Ch 1 sentences
- Due Thurs: Ch 2 sentences;  
Ch 1-2 problems

Week 2 – March 5-9

- Due Mon: Ch 3 sentences
- Due Thurs: Ch 4 sentences;  
Ch 3-4 Problems
- Due Fri: Ch 1-4 Discussion Essay

Week 3 – March 12-16  
(3/16 is 1<sup>st</sup> grade posting)

- Due Mon: Ch 5 sentences
- Due Thurs: Ch 6 sentences;  
Ch 5-6 Problems

Week 4 – March 19-23  
(3/20 is ACT for Juniors)

- Due Mon: Ch 7 sentences
- Due Thurs: Ch 8 sentences;  
Ch 7-8 Problems
- Due Fri: Ch 5-8 Discussion Essay

Week 5 – March 26-29 (3/29 is short day)

- Due Mon: Ch 9 sentences
- Due Thurs: Ch 10-11 sentences;  
Ch 9-11 Problems

Week 6 – April 9-13 (4/13 is 2<sup>nd</sup> grade posting)

- Due Mon: Ch 12 sentences

- Due Thurs: Ch 13 sentences;  
Ch 12-13 problems
- Due Fri: Ch 9-13 Discussion Essay

Week 7 – April 16-20

- Due Mon: Ch 14 sentences
- Due Thurs: Ch 15 sentences;  
Ch 14-15 problems

Week 8 – April 23-27

- Due Mon: Ch 16 sentences
- Due Thurs: Ch 17 sentences;  
Ch 16-17 problems
- Due Fri: Ch 14-17 Discussion Essay

Week 9 – April 30 – May 4

- Due Mon: Ch 18-19 sentences
- Due Thurs: Ch 20 sentences;  
Ch 18-20 problems

Week 10 – May 7-11 (5/9 is 3<sup>rd</sup> grade posting)

- Due Mon: Ch 21-22 sentences
- Due Thurs: Ch 23-24 sentences;  
Ch 21-23 problems
- Due Fri: Ch 18-24 Discussion Essay

Week 11 – May 14-18 (5/18 is super short day)

- Due Mon: Ch 25 sentences
- Due Thurs: Ch 24-25 problems

Final Exams/Presentations – May 21-24