

# Math 1332, Section 17: College Mathematics

## Fall 2019 Syllabus

### 1 Course Information

- Location and Time: ONLINE
- Professor: Dr. Martin Malandro
- Department: Mathematics and Statistics
- Office: 433 Lee Drain Building
- E-mail (preferred method of contact): malandro@shsu.edu
- Phone number: (936) 294-1580
- Office Hours: This is an online course. E-mail me, by Wednesday evening, your questions about work that is due on Saturday. I will respond (usually publicly) on Thursday.
- Required Materials:
  - Textbook (FREE): Math in Society v2.5 by David Lippman. Available at the following location: <http://www.opentextbookstore.com/mathinsociety/>
  - Calculator: hand held scientific calculator or better recommended. Calculators on phones will NOT be allowed on exams.
  - A laptop or desktop computer with web cam + microphone. This is required for “Respondus LockDown Browser with Monitor,” which is required for exams in this course. This is to protect the integrity of the course. I take cheating seriously because I want to preserve the value of your degree! Unfortunately, Respondus does not work right on things like iPads (or even the computers in the SHSU computer labs), so you will need to have your own private desktop or laptop computer with web cam + microphone.

**Catalog Course Description:** This course is designed to meet the objectives of Component Area 2 of the Core curriculum for non-business and non-science related majors. Topics may include sets, counting principles, probability, logic, linear algebra, linear programming, and mathematics of finance, geometry, and calculus. Prerequisite: Passing score on the MATH TSI Assessment or equivalent. Credit 3.

**Course Objectives:** Math 1332 is designed to meet the objectives of Component area 2 of the core curriculum for non-business and non-science related majors. Students completing this course should expect to improve upon their:

- *Critical Thinking Skills:* Students will analyze and synthesize mathematical concepts and ideas. Students will be able to solve mathematical problems as related to the topics of percentages and proportions, weighted averages, logical arguments, number theory, voting theory, and graph theory.
- *Quantitative Skills:* Students will be able to compute percentages and proportions. Students will be able to use percentages and proportions to describe growth and decay. Students will be able to compute weighted averages and solve for values in weighted averages. Students will be able to decide the validity of logical arguments. Students will be able to compute with modular arithmetic, compute greatest common divisors and least common multiples, predict the simultaneous recurrence of differently-timed events, compute check digits in bar codes, and predict the effects of perfect shuffles. Students will be able to decide winners of elections under different election systems. Students will be able to identify the fairness criteria that various election systems satisfy, and will be able to identify violations of these fairness criteria. Students will be able to identify isomorphic graphs, use graph colorings to resolve resource allocation problems, identify Eulerian paths in graphs, and find shortest circuits in graphs.

- *Communication Skills:* Students will communicate their expectations and goals for the course to the professor. Students will report their progress in the course to the professor. Students will learn standard terminology in higher mathematics and use this terminology to answer questions about open problems in mathematics. Students will analyze English logical arguments and use mathematics to decide the validity of these arguments.

## 2 Course Requirements (Grading Policy)

Your grade in the course will be calculated using the following weights:

Quizzes	20%
Exams	80%

There will be five exams (including the final exam), all of which are equally weighted. There will be roughly 30 quizzes in the course, all of which are equally weighted. Prior to computing your quiz and exam averages, I will drop your lowest 3 quizzes and your lowest exam.

Grading Scale:

A	90% or better final average
B	80–89% final average
C	70–79% final average
D	60–69% final average
F	59% or lower final average

**Make-up policy:** You will always have at least three full consecutive days to take every graded assignment in this course. Therefore no make-ups of any kind will be permitted.

**Academic Honesty Policy:** All work you submit for credit in this course must be your own. You may not use your phone or any other communication device during exams. You may not communicate with anyone else in any way when taking exams. The penalty for cheating in this course is a grade of F in the course. You may also be referred to the dean on academic dishonesty charges.

**Extra Credit Policy:** No extra credit is available.

**Grade Dispute Policy:** All grade issues need to be brought to my attention within one week of having your grade returned/posted.

**Final Exam Schedule:** Monday Dec 9–Wednesday Dec 11

## 3 Classroom Policies

**Attendance Policy:** This is an online class. I expect you to watch the lecture videos and keep up on the assigned work. Work will be due every week.

**Technology Policy:** You may not use your phone or any other communication device during the exams.

## 4 Tentative Schedule

WEEK 1: Percentages and Proportions, Hardware Check	Aug 21–Aug 31
WEEK 2: Weighted Averages	Sep 2–Sept 7
WEEK 3: Counting Formulas, Logical Statements	Sep 9–Sep 14
WEEK 4: Logical Arguments, Practice Exam 1	Sep 16–Sep 21
EXAM 1: Choose a 4-hour window in this range:	Wednesday Sep 18–Saturday Sep 21
WEEK 5: Modular arithmetic	Sep 23–Sep 28
WEEK 6: GCD's and LCMs, Bar Codes	Sep 30–Oct 5
WEEK 7: Perfect Shuffles	Oct 7–Oct 12
WEEK 8: Cryptography, Practice Exam 2	Oct 14–Oct 19
EXAM 2: Choose a 4-hour window in this range:	Wednesday Oct 16–Saturday Oct 19
WEEK 9: Plurality voting, Condorcet Criterion	Oct 21–Oct 26
WEEK 10: IRV and the Borda Count, Fairness Criteria	Oct 28–Nov 2
WEEK 11: Approval Voting, More Fairness Criteria, Practice Exam 3	Nov 4–Nov 9
EXAM 3: Choose a 4-hour window in this range:	Wednesday Nov 6–Saturday Nov 9
WEEK 12: Graphs and Coloring	Nov 11–Nov 16
WEEK 13: Coloring Applications, Euler Paths	Nov 18–Nov 23
WEEK 14: Catch up and Thanksgiving Break	Nov 25–Nov 30
WEEK 15: Hamilton Circuits, Practice Exam 4	Dec 2–Dec 7
EXAM 4: Choose a 4-hour window in this range:	Wednesday Dec 4–Saturday Dec 7
Final Exam: Choose a 4-hour window in this range:	Monday Dec 9–Wednesday Dec 11

The date/time of the final exam is set by official SHSU policy. All other dates in this list are tentative and subject to change.

## 5 Additional Information

**Disabilities policy:** Any student with a disability that affects his/her academic performance should contact the Office of Services for Students with Disabilities in the SHSU Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786) to request accommodations.

All information on this syllabus is subject to change. All changes will be announced in class. Further university policies regarding academic dishonesty, student absences on religious holy days, disabilities, and visitors in the classroom which apply to this course may be found at <http://www.shsu.edu/syllabus/>. If there is a conflict between information on this syllabus and official university policy, university policy takes precedence.