

Math 3300, Section 02: Intro to Math Thought

Spring 2019 Syllabus

1 Course Information

- Location and Time: TuTh 12:30–1:50pm, 402 Lee Drain Building
- 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: MW 3:00–4:15pm and by appointment. (Best appointment times: MW 2pm and TuTh 3:30pm.)
- Required Materials:
 - Textbook (FREE): Mathematical Reasoning Writing and Proof, ver. 2.1, by Ted Sundstrom.

Catalog Course Description: This course includes an introduction to sets, logic, the axiomatic method and proof. Credit 3. Prerequisite: Grade of C or better in MATH 1430.

Course Objectives/Learning Outcomes: By the end of the course a successful student will be able to write *clear* and *correct* mathematical proofs. The learning outcomes for a successful learner are as follows:

1. Direct Proof - Learners will prove statements, using direct proof, that are logically, grammatically and stylistically sound.
2. Quantifiers - Learners will translate between formal and symbolic quantified statements.
3. Negation - Learners will negate statements, including conditional statements and quantified statements.
4. Contrapositive Proof - Learners will prove statements, using contraposition, that are logically, grammatically and stylistically sound.
5. Proof by Contradiction - Learners will prove statements, using contradiction, that are logically, grammatically and stylistically sound.
6. Proof by Induction - Learners will prove statements, using induction, that are logically, grammatically and stylistically sound.
7. Sets - Learners will translate between different set notations and compute set operations.
8. The Arbitrary Element Method - Learners will prove statements about equality and containment of sets using the arbitrary element method.
9. Functions - Learners will prove that relations are functions, and will prove that functions are injective, surjective, and/or bijective.
10. Relations - Learners will identify relations and prove that relations are equivalence relations.

2 Grading Policy

The ten learning outcomes listed above are called modules. During the course you will take a short quiz, also called a module, for each of them. Your grade on each module will be “pass” or “try again” (at a later date). Your average in the course will be computed using the following weights:

Homework: Initial submissions	30%
Homework: Peer reviews	50%
Homework: Publications	20%

Your grade in the course will be assigned using the following scale:

A	90% or better average and pass all modules twice
B	80% or better average and pass all modules
C	70–79% average and pass all modules
D	60–69% average and pass all modules
F	59% or lower average, or failed to pass all modules

Homework: Homework is the most important part of the course. In this course we model the publishing process in mathematics. Each homework assignment is broken down into three parts.

Part A: Initial submission

Part B: Peer review

Part C: Submission of revisions for publication

All homework must be typeset using the industry standard language \LaTeX , and all homework submissions will take place on Blackboard. Detailed instructions for each step of the homework process are available on Blackboard. **Read them.**

Missed homework policy: Since homework will be submitted online, no make-ups for missed homework submissions will be available.

Exams: There are no exams. The closest thing to an exam in this course is a module. If you miss a module due to an absence that is the same as receiving a score of “try again.”

Academic Honesty Policy: **The only sources you may consult in this course are me, the TA, other students currently enrolled in the course, and your textbooks. That’s it.** Consulting any other source, including other professors, the Internet, solutions manuals, or anyone who has already completed the course, is considered cheating. You will have plenty of opportunity to interact with me and the TA for help, so take advantage of it!

When doing homework it is best to work alone. If you work with another student to find a solution you may not copy each other. When it comes time to write up your work to be turned in, *you must write it alone, in your own words.* Doing otherwise is considered cheating. Anything you write down while working with others should be erased or thrown away before you go off on your own to write up the work you’ll turn in for credit. I expect that what you turn in will be a reflection of your own understanding.

On modules, no help is to be given or received and no cheat sheets are allowed.

Punishment for cheating may include you being forbidden from attending further class meetings, an assignment of a grade of F in the course, and a referral to the dean on academic dishonesty charges.

Extra Credit Policy: There isn’t any extra credit.

Final Exam Time: Tue May 7, 1–3pm

3 Classroom Policies

Attendance Policy: I expect you to attend every class. If you miss a class, then I expect you to get notes from a classmate. I expect you to arrive to class on time.

Classroom Rules of Conduct: Students must refrain from behavior in class that disrupts the learning process. Students are prohibited from using tobacco products in class, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times or about inappropriate things, wearing inappropriate clothing, using cellphones, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Math-related questions in the classroom are encouraged. However, chatter is disruptive to the learning process and will not be tolerated under any circumstances.

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.

Use of Telephones and Text Messengers in Class: Be respectful of those around you and don't use these during class, except in the case of emergency. All messengers must be put away for exams.

4 Tentative Schedule

We will be doing the modules in order. Spring break is March 11–17. The course final exam time is Tue May 7, 1–3pm.

5 Additional Information

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.