
Intro to Higher Mathematics -- Spring 2016

MTH 300 - Intro to Higher Mathematics. A transition between elementary calculus and higher mathematics with emphasis on techniques of proof. (PR: C or better in MTH 230)

- Time and Place: 1:00 pm - 1:50 pm MTWR 509 Smith Hall
- Instructor: [Peter Saveliev](#) (call me Peter)
- Office: Smith Hall 713
- Office Hours: MW 2:30-4:45 (walk-in), or by appointment
- Office Phone: x4639
- E-mail: saveliev@marshall.edu
- Class Web-Page: math02.com
- Prerequisites: a certain level of mathematical maturity acquired through experience with calculus, algebra, geometry, etc.
- Text: *How to read and do proofs* by Solow
- Outcomes: the student will become proficient at reading proofs, checking proofs, discovering proofs, and writing proofs; the student will also start to become familiar with various constructions of advanced mathematics.
- Activities: the student will practice each outcome via the homework given in the textbook and online.
- Evaluation: the student achievement of each outcome will be assessed via
 - homework and quizzes: 40%
 - midterm: 25%
 - final exam: 35%

Course policy

Note: Some parts of this policy may not apply to your specific course. See your syllabus.

1. Homework. You should start with the textbook and lectures. Read the section and try all relevant exercises. Contemplate... Then you may test yourself with an actual assignment. Repeat as needed. Remember:

Homework \neq homework assignment.

The reason is that those assignments will only cover a small part of what you need to know.

2. Quizzes. They will be 5-10 minutes long, open book.

3. Written Assignments. You can discuss them with other students but you can't copy. Nor should you use the internet to search for answers. Unless a special arrangement has been made, the submission should be on paper. Please staple. Everything should be written legibly with generous margins and room between the lines. Always state the problem being solved at the top of the page. Assignments submitted in TeX may receive extra credit of one point provided the TeX code or the PDF is emailed to me -- in addition to the paper -- as it might be posted online.

4. Online Assignments. They are provided via [Webwork](#). You will be able to ask for help by clicking on a button from within the application. If I am available, I'll try to reply immediately. Be as specific as possible; provide your complete solution if you want me to find out what went wrong. Please anticipate potential technical problems as the deadlines are firm.

5. Exams. Midterms will be based on the material covered since the last exam. The final exam will be comprehensive and cumulative. The material since the last midterm will receive more emphasis.

6. Writing. You should write in complete sentences, including all algebra:

wrong: $1+1=2$ right: $1+1=2$. or $1+1=2$.

You should justify all your steps and conclusions, including all algebra:

wrong: $2x=4$ right: $2x=4$, therefore, $x=2$.

For advanced courses, examine also [Student's guide to proof writing](#).

7. Calculators. You won't need them but they are allowed in class. Your syllabus lists computer *restrictions* not *requirements*. Any equipment more complex than what's indicated is not allowed. This applies to quizzes, tests, and the homework assignments. You can certainly use them to test your answers. Whatever you submit, it should be able to stand on its own -- without references to a calculator. For example, the graph of a function with no explanation where it came from is inadequate. There will be no instruction on how to use them.

8. Grades. The grade for the class will be based entirely on your performance. Individual problems will be graded with a score between 0 and 10. These scores correspond to the latter grades as follows:

A: .90–1.00 B: .80–.89 C: .70–.79 D: .60–.69 F: <.60

The zero score will be given for problems not submitted or not attempted and I will give partial credit if you've made meaningful progress in the problem.

Scores are assigned to individual problems in homework, quizzes, and exams; this [spreadsheet](#) does the rest. Please download and use it. These scores are combined according to the formula provided in your syllabus and the total score determines your letter grade according to the scale above. There will be no curving. The final exam scores won't be released until the grades are posted by the university.

9. Missed Assignments and Exams. There will be no late homework accepted or make-up tests given. However, you will receive credit if

1. you have a valid reason for absence: illness, death in the family, approved institutional activity, etc. (see the [university excused absence policy](#)); and
2. you submit an explanation in the form of an e-mail (you may be asked to provide a note from a relevant authority).

In that case, the missed score is assigned based on your other scores: next homework/quiz, next test, or the final exam. If the final is missed, the grade for the class will not be based on the rest of the grades but entirely on my assessment of the student's achieved level of mastery. One weekly assignment (quiz or homework) may be dropped.

10. Attendance. You should make all efforts to be there and on time. Expect a high degree of "continuity" from one period to the next, so that if you miss a class (for any reason), next time you may feel lost unless you work out the lesson at home. If you

have missed a class without a valid excuse, you are not allowed to attend the next class without permission.

11. In Class. During the lectures, feel free to interrupt me at any time if you want to ask a question. You don't have to raise your hand. In fact, I expect you to participate in class work by asking questions, answering questions, pointing out mistakes, making suggestions, comments, etc. Immediate feedback will be greatly appreciated! Bring the book.

Please refrain from any disruptive activities, which include but aren't limited to:

- coming late, leaving early;
- using cell phones, laptops, or other electronic equipment (other than the permitted calculators, or the electronic version of the textbook);
- eating, drinking (bottled water is OK).

12. Office Hours. A few hours every a week are set aside for meeting students one-on-one, in my office. You can walk in at any time during these hours. You can ask for help with homework problems that *you have tried* (bring your work!), explanations of the material, hints, etc., but not for the actual solutions. You can test your ideas on me. Consider also the tutoring services provided by the department and the university.

13. Academic Integrity. Cheating will result in the zero grade for the assignment.

14. Final Request. You should save a copy of this document as well as a copy of your course-specific syllabus. When you want to ask me a question about any of the issues discussed above (such as your current grade, missed assignments, etc), you should bring these documents with you. If you don't, I'll know that you haven't read this.