

Course Information

Math 3593H: Honors Mathematics; Spring 2020

10:10 A.M. - 11:00 A.M. ; M,W,F ; Vincent 207

10:10 - 11:00 A.M; T, Th Vicent 213

Instructors M. Keel Vincent Hall 222 Email: keel@umn.edu

L. Webster Vincent Hall 358 Email: webst390@umn.edu

Instructor's office hours: Professor Keel's office hours in VH 222 are M, F: 1:15 - 2:05; W: 11:00 - 12:00.

Course Description: This is the second term of the honors sequence for the second year Calculus syllabus here at the University of Minnesota. The two term sequence 3592-93H excuses students from (i) Multivariable Calculus, (ii) Sequences, Series, and Foundations, and (iii) Linear Algebra and Differential Equations. Hence during this year-long sequence we aim to cover the important topics from all three of these courses that form a foundation for much of the later courses in the Mathematics curriculum at the University of Minnesota. During the Spring term, we aim to cover topics from linear algebra, differential equations, and multivariable calculus.

Text: We will mostly use material from Tom Apostol's text, *Calculus, Volume II* (2nd edition). We will use a different text for differential equations - that will be announced later.

Homework: Homework will be assigned approximately every week. **Late homework will not be accepted.**

You are encouraged to work together on the homework, but all solutions must be written in your own words - and you are expected to understand any argument you present in your solutions.

We will drop your lowest homework score before computing your grades. (For example, if you miss one homework you will receive a "0" that week, but it will not affect your final grade as one score gets dropped.)

Exams and Grading: There will be two midterm exams and a final exam, all of which will be closed book and closed notes.

Course grades will, to first approximation, be computed as follows: the midterms will in total contribute 40% of the final grade (20% each), the final exam contributes 35% of the final grade, and the homework contributes 25% of the final grade. The dates of the midterms will be announced within the first week of classes. The final exam will take place on Thursday, May 7th from noon to 3pm. The room for the final exam will be assigned later by the University and that room will be announced in class.

Gradelines can be described very roughly as follows: any score of 90% and above is an A; lower scores higher than 80% of total points are at least B, B+, or A-. Lower scores higher than 70% are at least C, C+, or B-. The words 'at least' in these last two sentences indicate that gradelines might shift if exams or homeworks turn out to be more difficult than is usually the case. Last semester the gradeline for A was at 86% and the gradeline for A- was 82% and the gradeline for B+ was 76%. These gradelines will very likely be higher this semester.

Classroom Expectations: We promote a classroom environment that encourages participation and concentration from everyone - students and instructor! It almost surely goes without saying, but we'll say here anyways that while we certainly respect students who during class time wish to read newspapers (online or paper copies), novels, or material (paper or online) related to topics other than those we are covering in this course, at the same time such activities likely distract students from our class discussion. Students who produce such distractions will be asked to kindly stop, or to leave the classroom for that period. Similarly, cell phone and laptop use is not allowed in the class. If a student wishes to take notes on an electronic device we ask them to discuss that plan with the instructor ahead of time.

Readers of this syllabus interested in an example of a study that links laptop use with decreased learning by the laptop user can read:

<https://www.timeshighereducation.com/news/using-laptops-in-class-harms-academic-performance-study-warns>

A discussion that puts forward the idea that laptop use decreases the learning of those around the laptop user (and not just the user themselves) in the classroom can be found at:

<https://medium.com/@cshirky/why-i-just-asked-my-students-to-put-their-laptops-away-7f5f7c50f368>

See also the following paper, cited in the above discussion:

<https://www.sciencedirect.com/science/article/pii/S0360131512002254?np=y>

Academic Honesty: Academic dishonesty in any portion of the academic work for this course shall be grounds for awarding a grade of F for the entire course. Information on the student code of conduct at the University of Minnesota can be found in many places, including the following two websites:

https://regents.umn.edu/sites/regents.umn.edu/files/policies/Student_Conduct_Code.pdf

<https://iiss.umn.edu/Academics/academic-integrity.html>

University Policy on Credits and Workload Expectations (I am placing this information here after seeing it on a syllabus of a course taught by Professor Stanton, since I believe it's an important thing for students to keep in mind): For undergraduate courses, one credit is defined as equivalent to an average of three hours of learning effort per week (over a full semester) necessary for an average student to achieve an average grade in the course. For example, a student taking a 5 credit course such as Math 3593H that meets for five hours a week should expect to spend an additional 10 hours a week on coursework outside the classroom to obtain the level of expertise described in the preceding sentence. (Please read that carefully. The sentence uses the phrase "to obtain the level of expertise described in preceding sentence" as a stand-in for "to achieve the grade of C, for an average student".) See <https://policy.umn.edu/education/studentwork> for the official University of Minnesota policy on credits and workload expectation.