MATH F253X: Calculus III Fall 2018
Syllabus

Instructor: Jill Faudree
Contact Details: Chapman 306B, jrfaudree@alaska.edu, 474-7385
TENTATIVE Office Hours: MWF before class (10:30am - 11:30am) and T 12:30pm-2:15pm and by appointment. Also, you are welcome to drop by.
Dedicated Problem Session: Tuesday from 12:30-1:00 in our Tuesday classroom
Textbook: *Calculus, Early Transcendentals*, Stewart 8th Edition, (ISBN-13: 978-1-305-27036-7)
Lecture Hours: MWF 11:45am-12:45pm Grue 306, T 11:30am-12:30pm Engineering 301
Course Web Page: on UAF Blackboard and jrfaudree.github.io (my public webpage)
WebAssign: Access via Blackboard
TENTATIVE Midterm Dates: Wednesday 26 September, Wednesday 24 October, Tuesday 20 November
Final Exam: Monday 10 December 10:15am-12:15pm
Prerequisites: a grade of C- or better in MATH 252 Calculus II or its equivalent

---

Course Overview and Goals:

The course description in the catalog reads as follows:

> Partial derivatives and multiple integrals (double and triple). Vectors, parametric curves, motion in three dimensions, limits, continuity, chain rule, tangent planes, directional derivatives, optimization, Lagrange multipliers, integrals in polar coordinates, parametric surfaces, Jacobians, line integrals, Green's Theorem, surface integrals and Stokes' Theorem.

Here's my description. In Calculus I and II, you learned about limits, derivatives, integrals, series, and applications of these ideas. All these discussions concerned functions of a single variable, $f(x)$. However, you can think of lots of situations where a model would require a function of multiple variables. For example a natural way to describe the position of an object on the earth is by longitude and latitude. Any function of an object's position (say temperature or elevation) now has two variables: longitude and latitude and the form $T(x, y)$. How do we extend the ideas of limit, derivative, and integral to functions of this type? How do we interpret our new versions? We develop answers to these questions in this class.

It is worth emphasizing the importance of *both* questions in the previous paragraph. For example, we need to understand how to *compute* a derivative but it is just as important to understand how to *interpret* it because it is precisely this interpretation that makes the material in this course so valuable to the study of physics, chemistry, statistics, biology, engineering, and economics.

Course Mechanics:

Class meetings will be run as an interactive lecture. I will always begin by asking if there are any questions – about homework or topics recently covered in class. *You should always come to class*

prepared to ask a question. In every class you will work problems to check your understanding so come prepared. Bring paper, pencil, and an alert brain!

Attendance is mandatory. Sign in sheets at the front.

Online homework will be assigned using the online tool Web Assign. The advantage of online homework is that you get instant feedback on your work. Your online homework average will be calculated as (points earned)/(points possible). You should begin the online homework on the day we cover the material in class. You should ask questions the next day in class and then complete it. That is, in order to stay current and keep up with lectures, you should be completing all assigned problems within 1 class period of completing the topic in lecture.

Written homework will be assigned weekly and is due on Tuesdays by 6pm. Papers should be turned in to my mailbox in Chapman 101 or placed in the metal box outside the door. Written homework provides you with practice writing mathematics and working harder problems. All problems are posted on the course webpage and linked in Blackboard. Your written homework average will be calculated as (points earned)/(points possible).

Quizzes will be given every Wednesday (unless there is a midterm.) Make-up quizzes will be given only for excused absences.

Midterms and the Final Exam will be written without the use of calculators. There will be three tests and a comprehensive final exam. The three tests are tentatively scheduled for Wednesday 26 September, Wednesday 24 October, and Tuesday 20 November. **The Final Exam will be Monday 10 December 10:15am-12:15pm.** It is DMS policy that final exams cannot be given early or late.

Make-up Midterms will be given only for excused absences. Except in extreme emergencies, absences must be approved in advance.

Grades will be calculated according to the following:

written homework	10%
quiz average	15%
online homework average	5%
Test 1	15%
Test 2	15%
Test 3	15%
Final Exam	25%

Grade Bands: A, A- (90 - 100%), B+,B, B- (80 - 89%), C+, C, C- (70 - 79%), D+, D, D- (60 - 69%), F (0 - 59%). I reserve the right to lower the thresholds. Also, in an effort to reward the student who makes significant improvement over the course of the term, a stellar grade on the final may overcome a deficiency on a midterm and improve a student's final grade.

(tentative) Schedule of Topics:

week 1:	introduction,12.1-12.3	week 9:	14.8, Review, Midterm 2, 15.2
week 2:	12.4-12.5	week 10:	15.2-15.3,
week 3:	12.5, 12.6, 13.1	week 11:	15.4-15.5
week 4:	13.2-13.4	week 12:	15.6-15.8
week 5:	13.4, Review, Midterm 1, 14.1	week 13:	Review, Midterm 3, Thanksgiving
week 6:	14.2-14.4	week 14:	16.1-16.3
week 7:	14.4-14.6	week 15	16.3-16.4
week 8:	14.6-14.8	week 16	Review, Final Exam

Last Day to Withdraw: Friday 2 November
Last Day of Class: Friday 7 December
Final Exam: Monday 10 December 10:15am-12:15pm

Miscellaneous Other Issues:

Walk-in Tutoring is available at no extra cost at the Math Lab in Chapman 305. Hours will be announced and posted on the door. A good way to use the Math Lab is to simply go there to do your homework, so that if any questions arise you can get immediate help. See the link from the Blackboard page.

One-on-one Tutoring is available at no extra cost but it does (kind of) require scheduling in advance. See the link from the Blackboard page.

Course accommodations: If you need course adaptations or accommodations because of a disability, please inform your instructor during the first week of the semester, after consulting with the Office of Disability Services, 203 Whitaker (474-7403).

University and Department Policies: Your work in this course is governed by the UAF Honor Code. The Department of Mathematics and Statistics has specific policies on incomplete grades, late withdrawals, and early final exams, some of which are listed below. A complete listing can be found at http://www.uaf.edu/dms/Policies.html.

Late Withdrawal: This semester the last day for withdrawing with a **W** appearing on your transcript is Friday 2 November. A student may be withdrawn for lack of participation. Inadequate participation includes but is not limited to: missing an exam, repeatedly failing to take quizzes or to complete homework assignments, or having a failing average (below 70%) at the withdrawal date.

Academic Honesty: Academic dishonesty, including cheating and plagiarism, will not be tolerated. It is a violation of the Student Code of Conduct and will be punished according to UAF procedures.

Courtesies: As a courtesy to your instructor and fellow students, please arrive to class on time, turn off your phones and other distracting electronics during class, and pay attention in class.

Five Suggestions for Being Successful in any Math Course

1. Attend every class. Listen. Write down all examples worked in class.
2. Work every problem on every homework assignment early enough to check your answer and ask questions.
3. Look over all graded work (online homework, written homework, quizzes, midterms) and go over any missed or *uncorrected* problems by comparing to solutions.
4. Find a way to get your questions answered quickly and effectively and use it.
5. The best preparation for midterms and the final exam is consistent application of suggestions 1-4 above. The second best preparation for midterms and the final exam is to take practice midterms and finals *under test conditions.*