Syllabus
Calculus III
Math 202 Section 601
Fall 2014

Class Times
Monday, Wednesday, and Friday 10:00-11:15 a.m.

Classroom
SSB 213

Instructor
Dr. Mark Fitch

Blackboard
All class materials can be found on Blackboard at
http://blackboard.uaa.alaska.edu/. If Blackboard is not accessible the materials
may also be found at http://www.math.uaa.alaska.edu/~afmaf/classes/.

Office Hours
Monday, Wednesday-Friday 1:00-2:15 p.m. See
http://www.math.uaa.alaska.edu/~afmaf/classes for additional available times.

Email
mafitch@uaa.alaska.edu

Phone
786-1656

Office
SSB 154D

Tutors
Tutoring is available in the Math Tutoring Lab in SSB 170.

Textbook
Calculus Early Transcendentals 7th edition by James Stewart (required)
WebAssign-textbook online service (required)

Computational
You will benefit from the use of various computational devices in and out of
Devices
the classroom.

Calculators
Graphing calculators including apps on phones and
laptops will be useful for exploration and checking
computations.

Computer
You will be required to use a computer algebra system for
Algebra Systems
some assignments. The Mathematical Sciences
department provides Mathematica in the Math Tutoring
Lab (SSB 156). You may use any system to which you
have access though support may be limited.

Web Access
You may find it useful to have a laptop or other device in
class for accessing web pages and displaying pdf files.

Prerequisites
You need to be able to use algebra, trigonometric, limit, derivative, and
integral techniques easily.

Topics
The course covers the extension of calculus to multi-variable and vector
based functions. This includes vector algebra with the dot product, cross
product, and vector equations for lines and planes. It includes the use of
derivatives to find tangents, normals, curvature, and arc length, as well as
directional derivatives and the gradient. Integral topics include multiple
integrals with application to 3D volumes in Cartesian, cylindrical, and spherical
coordinates. Also included are vector calculus topics including line and
surface integrals using Green’s and Stoke’s theorems.

Goals
By the end of the appropriate section you should
• be able to differentiate vector functions of two and three variables,
- use and evaluate iterative integrals, and
- identify and use classic integration theorems in two and three variables.

**Daily Lesson**

**Purpose** The lesson is the source of new material. By completing the assigned problems you will learn new topics.

**Assignment** Complete the assigned problems from the problem set found online on Blackboard or at [http://www.math.uaa.alaska.edu/~afmaf/classes/math202/](http://www.math.uaa.alaska.edu/~afmaf/classes/math202/). Note you may work with other students and ask questions of the instructor when working on the lesson.

**Due** Assigned problems must be completed before the class in which they are due.

**Feedback** Questions on the lesson will be addressed during class.

**Grading** See Class Time below.

**Class Time**

**Purpose** During class students working in groups will take turns presenting the solutions to the problems then discussing and as needed correcting errors as a class. The instructor will provide a final summary of topics at the end of class as needed. Class time will ensure that you have the opportunity to understand each topic.

**Assignment** Be prepared to present a few times over the semester.

**Feedback** The class will provide immediate feedback during discussion.

**Grading** Your work and presentation will be graded for completeness and presentation. Additional points are possible for correctly discovering concepts and connections.

**Class Portfolio**

**Purpose** To reinforce concepts from class and to provide materials to review, each group will provide a corrected, written version of each problem they present. These will be posted online for the class to use.

**Assignment** Provide an easy to read version of answers to each problem presented in class. The instructor may elect which problems will be posted.

**Due** Written problems are due the class period after they are presented.

**Grading** The written problems will be graded based on completeness and correctness.

**Practice**

**Purpose** Problems from the textbook provided through WebAssign provide the opportunity to practice skills. Be aware that most textbook problems emphasize mechanical skills rather than understanding. As such they are not representative of test questions.

**Assignment** Complete the problems on [WebAssign](https://www.webassign.net). Questions on practice problems can be asked during office hours or in the math tutoring lab.

**Due** Assignment will become available after the material is completed in class. Due dates are listed in WebAssign.

**Feedback** WebAssign will indicate whether your solutions are correct.

**Daily Quiz**
Purpose Quizzes test your grasp of the material and therefore provide you with feedback on your progress. They typically require recognition of patterns, not necessarily identical in appearance to homework problems. They may also point out nuances.

Assignment At the beginning of class a short (approximately 5 minute) quiz over recent material will be given.

Feedback If incorrect, the first, major wrong step in a problem will be noted with a note about the correct step if possible. Grading symbols, explained online, will be used to identify error types.

Grading Your work will be graded for accuracy and presentation. At the end of the semester an allowance will be made for missed quizzes.

Exams

Purpose Exams provide you with an opportunity to demonstrate your mastery of mechanical skills and your understanding of the concepts. The latter are weighted more heavily in the grading.

Assignment Exams will be given on the dates specified on Blackboard or at http://www.math.uaa.alaska.edu/~afmaf/classes/math202/schedule.html.

Feedback If incorrect, the first, major wrong step in a problem will be noted with a note about the correct step if possible. Grading symbols, explained online, will be used to identify error types. Full solutions will be provided in a posted answer key.

Grading Your work will be graded for accuracy and presentation.

Projects

Purpose Projects require using learned skills to solve large problems. They often require extrapolating from what you know to discover something new. This mimics actual use of mathematics in life and therefore meets the goals of the course.

Assignment The projects can be found on Blackboard or at http://www.math.uaa.alaska.edu/~afmaf/classes/math202/schedule.html.

Due Projects will be collected initially on the dates specified online. Resubmissions of projects can be submitted any time prior to the beginning of exams.

Feedback Incorrect problems will be explained as on homework. Essays will be returned with verbal comments on how to improve the writing and on any misconceptions.

Grading Your work will be graded for accuracy and presentation. Writing project criteria are posted online (http://www.math.uaa.alaska.edu/~afmaf/classes/writing_criteria.html). Projects may be resubmitted. The grade will be 100% of the earned for the first submission, 90% for the second submission, and 80% for the third submission.

Grading Your grades will reflect your ability to perform the tasks outlined in the goals and to clearly explain how you accomplished the tasks. Because understanding is more important than producing results, steps in a solution are more important than the result. Specific criteria are provided above and with individual assignments as required.

Assessments

Quizzes, Presentations, and Practice 10%
Projects 10%
Exams 15% x 4
Final Exam 20%

The final exam will be on December 8th from 10:00 a.m. - 12:45 p.m.

If you have a certified learning disability, please inform the instructor so that the university sanctioned assistance can be provided.

Scale

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<tr>
<th>Grade</th>
<th>Score Range</th>
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<tr>
<td>A</td>
<td>90-100</td>
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<td>B</td>
<td>80-89</td>
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<tr>
<td>C</td>
<td>70-79</td>
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<td>D</td>
<td>60-69</td>
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<tr>
<td>F</td>
<td>0-59</td>
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Grades of C or higher indicate preparedness to progress to courses for which this is a prerequisite. A grade of B or higher indicates an ability to explain procedures. A grade of A indicates the ability to extrapolate from these skills to solve related problems.

Academic Expectations

**Lessons**: If you do not understand any part of a lesson or an assignment, ask for assistance before the assignment is due. You will need to provide a specific description of the difficulty: instructors cannot read your mind.

**Instructions**: If you do not understand any instruction or a question, ask before the work is due. An assignment may be submitted only once, except for projects.

**Corrections**: If you discover a mistake in any graded work, please bring it to the attention of the instructor as soon as possible.

**Incomplete assignments**: Lessons, homework, and quizzes not turned in on time receive no credit.

Please arrange excused absences for exams before the exam if at all possible. If you cannot make arrangements before the exam, then the final exam grade will replace that exam score. If the university is closed for an emergency on an exam day, the exam will be given the next class session.

Projects submitted late are treated as a resubmission.

Attendance

Regular attendance and active participation is expected in all classes. You are responsible for class work even if there are legitimate reasons for your absence. In particular, class attendance is vital to success in this course. Some of the material covered in this course is not included in the textbook nor is it online. If you miss class for university business or civic duty, please inform your instructor as early as possible prior to your absence. More than four unexcused absences may result in a “faculty initiated drop.”

Should the last date of your class attendance be required, it will be determined by the last date of any material submitted by you for recording in the class grade record. If you have evidence that your date of last attendance is otherwise, you must inform your instructor of such prior to the assignment of your final grade. The date of last attendance may impact financial aid.

Most graded assignments are returned at the beginning of class. If you miss this, you will need to come to the instructor’s office to obtain the assignment. All assignments not collected by the final exam will be destroyed as required by FERPA.
**Academic Honesty**

Use of any communication device during an assessment is prohibited. The instructor will note when accessing the internet is needed for class. Audio devices may not be worn during any assessment.

**Non-Academic Assistance**

The mission of the UAA CARE Team is to promote a safe and productive learning, living and working environment by addressing the needs of students. If you, or someone you know, needs support, is distressed, or exhibits concerning behavior help by making a referral to the CARE Team. Contact the CARE Team by: filling out a referral on http://www.uaa.alaska.edu/CareTeam; E-mail your concern to Care@uaa.alaska.edu; or call the Care Team phone number: 786-6065; if an emergency—call UPD or 911.

**Courtesy**

Courtesy in the classroom is important for learning. Remember students and instructors come from varied cultures and backgrounds: be mindful of others as you interact.