

MAT 203 Calculus III with Applications - Syllabus

Prerequisite: C or higher in MAT 127 or 132 or 142 or AMS 161 or level 9 on the mathematics placement examination May not be taken for credit in addition to AMS 261 or MAT 205.

This course will cover discuss the following topics:

- Vector algebra in two and three dimensions
- Multivariate differential and integral calculus
- Optimization
- Vector calculus including the theorems of Green, Gauss, and Stokes
- Applications to economics, engineering, and all sciences, with emphasis on numerical and graphical solutions
- Use of graphing calculators and/or computers.

Text Book: *Multivariable Calculus*, by Larson and Edwards (10th edition). It is the last part of a larger book and has chapters 11 through 16. **Note:** there is VERY useful and free online solution manual which gives detailed solutions to the odd numbered problems. In addition to the assigned WebAssign problems, I'll suggest odd numbered problems to help you master the topics but the more you do, the better you will do. These would be most helpful before you did the WebAssign.

Suggested Equipment and Applications

- For some topics will need a graphing calculator such as the TI84 (any version), TI N-Spire or similar. As of now there are no plans to use them on exams but that may change and you will be notified if that happens.
- If you have a smart phone or tablet, application such as the Wolfram "Calculus Assistant", "Multivariable Calculus" and "Quick Graph" would prove very useful but are not required. We will use some of these in class and may prove useful on HW.
- Computer Algebra Systems such as Maple, Mathematica, etc. may also be quite handy but are not required.

Homework

- Most homework will be done using the online Homework service *WebAssign* and you will need to purchase it.
- Assignments will normally be posted in *WebAssign* on Saturday, Sunday and on rare occasions on Monday and will be due the following Monday at 8:00 AM. You will be notified in Bb and by email if there are any changes.
- You will be graded on how many questions you get correct and how many tries it takes you to get the correct answer. Keep an eye on your email for announcements.

Recitations:

- These are required sessions with your TA in which homework will be discussed and questions will be answered. There will be a quiz in recitation and/or written assignment to hand in each week. Tests and quizzes will be returned during recitations.

Recitation grades:

- The grades you receive by submitting your HW through WebAssign will be half of the recitation grade. Quizzes given in recitation and/or written assignments will be the other half.

Reading: The textbook is intended to be read. Read the assigned sections corresponding to the assignments. Furthermore, the lectures will not always be able to cover all of the material for which you will be responsible. There is a lot of fairly challenging material and the pace will be quick so reading before and/or after class would be a big help.

Examinations and grading: There will be two midterms, and a final exam. The dates will be announced a week or so in advance.

- **Final Grade Calculation**

MT 1	MT 2	Final	Recitation
25%	25%	30%	20%

- **Math Learning Center:** The Math Learning Center, in the sublevel of the Mathematics tower, is there for you to get help with Calculus. It is staffed most days and some evenings— your lecturer or TA may hold some of his or her office hours there. A schedule should be posted outside the room and at the Math Undergraduate Office.
- **Cell Phones:** If you have a cell phone with you, please have it turned off or set to vibrate. Allowing your phone go off in class is inconsiderate. If you need to talk to someone on the phone please leave the room and move far enough away so that the class is not disturbed.
- **DSS advisory:** If you have a physical, psychological, medical, or learning disability that may affect your course work, please contact Disability Support Services (DSS) office: ECC (Educational Communications Center) Building, room 128, telephone (631) 632-6748/TDD. DSS will determine with you what accommodations are necessary and appropriate. Arrangements should be made early in the semester (before the first exam) so that your needs can be accommodated. All information and documentation of disability is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and DSS. For procedures and information, go to the following web site <http://www.ehs.sunysb.edu> and search Fire safety and Evacuation and Disabilities.

- **Conduct:** The following statement is University policy:
 “Stony Brook University expects students to maintain standards of personal integrity that are in harmony with the educational goals of the institution; to observe national, state, and local laws and University regulations; and to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students’ ability to learn.”
- **Academic Integrity Statement:**
 Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html
- **Email:** Please be sure to use Standard English in writing emails to me, and your TA, including correct spelling and punctuation. Also use complete sentences. Start the subject line with “MAT 126” then your subject.
- **Blackboard:** You are required to use this application throughout the course to access assignments and other material, to view grades, to contact me and to check for announcements. It is also a good way to contact other students in class to complain about the professor. It would best if you check the site and your email at least once daily since you are responsible for any updates or other material that are posted.

Purchasing the text and WebAssign:

- Note that Webassign access is **free for the first two weeks and includes an electronic text**. So you don't have to do anything right away.
- You can purchase the textbook and webassign together or separately; buying them together tends to be less expensive, but not always.
 You have several options:
- **Purchase *Cengage Unlimited***. [cost: \$119.99]
 This is a digital subscription service, which gives you access to the (electronic) textbook

for this course, and also WebAssign. It also gives you access to the text in any other course using a Cengage text (these include courses in many subjects-- see [an explicit list here](#). But not all courses use Cengage texts, so check first!)

You have the option of renting or purchasing a physical text. Furthermore, you can select up to 6 texts to use for another year, which also gives you WebAssign access. Go to the directly to www.cengage.com to purchase.

- **Buy a physical text and webassign access for several semesters.** [cost: \$169]
This option is called an "ePack" on the directly to www.cengage.com.
- **Buy several semesters of Webassign access with an electronic text.** [Cost: \$125]
This is called "Webassign Instant Access" on directly to www.cengage.com. You can also buy this from within WebAssign for the same price. I don't know why anyone would choose this option over the Unlimited one.
- **Buy only one semster of access to Webassign, with an electronic text.** [cost: \$100]
This can only be done within Webassign. As long as none of your other courses use Cengage texts, this could be a good option.
- **Buy webassign without an e-book.** [cost: \$60-80]
Students can buy the webassign-only access direct from within WebAssign. In this case, the cost is \$60 for a single term, or \$80 for multiple terms. But you don't get access to a textbook (but see below).

See you in class!