Course Syllabus
MATH-2211 - Calculus of One Variable I
Fall semester, 2012

Course: MATH-2211 – Calculus of One Variable I (**CRN**: 88620)

Text: (Required) *Calculus: One and Several Variables, 10th Edition* by Salas, Hille & Etgen; Wiley, 2007, ISBN 9780471698043. See also below regarding the supplemental website, WileyPLUS.

Other versions of the same textbook:
- *Calculus: One and Several Variables, 10th Edition* (bundled with WileyPLUS code), ISBN 9780470132203;
- *Calculus: One Variable, 10th Edition* (if you are not going to take MATH-2215), ISBN 9780470073339;
- *Calculus: One and Several Variables, Binder Ready Version, 10th Edition*, ISBN 9780471752547.

Prerequisites: Grade of C or higher in MATH-1113 or a suitable score on the math placement test.

Days & time: MWF 1:30pm-2:40pm   **Room:** GCB 427

Instructor: Sara Malec

Office: 762 College of Education Building (corner of Decatur and Pryor).

Office hours: MW 4:00-5:00pm, F 12:00-1:00pm or by appointment.

Office phone: 404-413-6447   **Department Phone:** 404-413-6400

E-mail: smalec@gsu.edu (Best way to reach me)

Academic Assistance: Every week on Monday and Wednesday at 10:00am-11:45am and Friday at 10:00am-11:00am in room 120 Kell Hall.

Supplemental Instruction: TBA

WileyPLUS section link: http://edugen.wiley.com/edugen/class/cls288203/. Access to the WileyPLUS website is not required, as there will not be any graded online assignments in the course. However, many practice resources are available on the website, so if you have an existing WileyPLUS account or if you choose to purchase one now, use this link to sign up for our class's online section. Also, the entire textbook is available electronically on the website, so you have the options of buying the hardcopy book or the access code (or the whole bundle) – it's up to you.

uLearn: All course-related materials are available or will be posted throughout the semester on the uLearn website. You can log in to uLearn at http://ulearn.gsu.edu.

Couse content: Limits and continuity, differentiation, Mean Value Theorem for derivative, applications of differentiation, definition of the integral, Fundamental Theorem of Calculus, applications of integration to area.

Prerequisite policy: During the first two weeks of the semester the Department of Mathematics and Statistics checks the computer records to determine whether or not each student has met the prerequisites for this course. If you do not have the prerequisites, please inform me and change to another course right away. If our computer search finds that you do not have the prerequisites, you must drop this course or you will be dropped (or withdrawn) automatically.

No-show policy: If you do not attend class during the first two weeks of the semester, you will be administratively dropped.

Grades: Grades will be determined on the basis of 3 tests (20% each), average of weekly homeworks and in-class assignments (15%), and the final exam (25%). All students must take the comprehensive final exam. If the final exam grade is better than your lowest test grade, then that test grade will be replaced by the average of that test grade and the final exam grade. Letter grades will be awarded as follows:

97%-100%	$\rightarrow$ A+	80%-82%	$\rightarrow$ B-
93%-96%	$\rightarrow$ A	77%-79%	$\rightarrow$ C+
90%-92%	$\rightarrow$ A-	70%-76%	$\rightarrow$ C
87%-89%	$\rightarrow$ B+	60%-69%	$\rightarrow$ D
83%-86%	$\rightarrow$ B	Below 60%	$\rightarrow$ F

Example of final grade computation:
Test Grades: T1 = 88, T2 = 72, T3 = 68; Homeworks average = 85; Final Exam = 78;
Final Grade: 0.2*(88+72+<u>**73**</u>) + 0.15*85 + 0.25*78 = 78.75, which rounds to 79, which is a C+. (Note the replaced grade for Test 3.)

Weekly homeworks and other assignments: There will be weekly graded homeworks throughout the semester. The due dates and grading criteria for each assignment will be announced in class. Typically, you will have at least a week to complete each homework. Early submissions are allowed; late submissions will not be accepted for any reason whatsoever. There will also be occasional in-class assignments, which will be turned in at the end of the class period and may not be made up. At the end of the semester, the two lowest homework grades and the two lowest in-class grades will be dropped, and the average of the remaining homeworks will contribute 15% to your course grade.

Tests: There will be three in-class tests. Each test will contribute 20% to your course grade.

Final exam: The comprehensive final exam is scheduled for **Wednesday, December 5th, 2012** at 1:30pm-4:00pm in the same classroom (GCB 427).

Makeup policy: In-class tests may be made up **only** in the event of a verifiable excuse (e.g., a doctor's note or a police report is necessary). Absence from the final exam will result in a grade of F for the course unless arrangements are made PRIOR (at least 2 weeks) to its administration.

Calculator policy: For all in-class graded assignments you are permitted to use a non-programmable, non-graphing, non-symbolic/algebra-solving scientific calculator with no more than 2 lines of display. Examples of suitable calculators: *Casio fx-260* (not *Casio fx-300* or *Casio fx-115ES*), *TI-30* (not *TI-83* or more advanced models), *HP-9S* (not *HP-9G* or *HP-35*), *Sharp EL-501* and *Sharp EL-531* (not *Sharp EL-W535*). None of these models cost more than $15. Your calculator should have buttons for parentheses, exponent (raising to any power), reciprocal, trigonometric functions and their inverses, exponentials, logarithms, and memory for numbers (not programs or equations). Use of mobile phones is not permitted in place of a calculator under any circumstances. If you are in any doubt as to whether your existing or planned calculator is suitable, you must get it passed by your instructor prior to its use. Your calculators will also be checked during tests for compliance with these rules. It is entirely your responsibility to have a suitable and working calculator on test days, as there will be no opportunity to borrow a calculator or batteries from your peers or your instructor. Breaking these rules will be treated as cheating according to the university guidelines below.

Cheating/plagiarism policy: Cheating/plagiarism will not be tolerated on any work. Every occurrence will result in a grade of 0 on the assignment for all concerned parties as well as an Academic Dishonesty form being

filed with the Dean of Students. (See also the University's policy on Academic Honesty at http://www.gsu.edu/~wwwdos/codeofconduct.html.)

Attendance and conduct policy: Attendance will be taken daily. After the first week, good or bad attendance will have no effect on your grade. It is taken purely for the department's records. Appropriate conduct is expected from all students. Arrive on time, and do not leave early. If you must leave early for some reason, please inform me prior to class and do so as quietly as possible. **Please turn off all cell phones, pagers, laptops, and all other electronic communication devices and keep them off the desk.** Text messaging, instant messaging, emailing, etc during class is strictly prohibited and is grounds for dismissal. If you are using your cell phone, using your computer for tasks that are not math related, talking, or otherwise disrupting students, you will be asked to leave. After the third incident you will be administratively removed from the class (as per the Student Handbook). See the University's *Disruptive Behavior Policy* (paragraph 1050.30 in the *Undergraduate Catalog*, available at http://www.gsu.edu/enrollment/catalogs.html) or *On Campus*, the official student handbook (http://www.gsu.edu/~wwwcam/).

Inclement weather policy: If the University is closed due to inclement weather, any exam that may have been scheduled for that date will be administered on the next available class date. If an in-class assignment is due that day, it will be due the next class.

Withdrawal policy: If you withdraw from this class on or before the Midpoint of the semester (**Tuesday**, **October 9th, 2012**), you will receive a WP regardless of your performance. The computer will then turn this into a W or a WF depending on how many cumulative withdrawals you have in the University. Voluntary withdrawals after the Midpoint are no longer allowed.

Academic support:
1. Form study groups with classmates
2. Attend all Supplemental Instruction sessions (see above). You can also visit other classes' SI sessions. (???)
3. See your instructor during office hours. You can also see any other current Calculus-I instructor.
4. Attend Calculus Academic Assistance sessions (see above).
5. Visit the Math Assistance Complex (MAC), room 122 Kell Hall (404-413-6462).
6. Visit the Counseling and Testing Center: Learning assistance, Test anxiety classes, Student support services (http://www.gsu.edu/counseling/, 404-413-1640).
7. Private tutor list is available at the Math Assistance Complex and the Math Department.

Additional notes:
1.   Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State University. Upon completing the course, please take time to fill out the online course evaluation.
2.   Students who wish to request accommodation for a disability may do so by registering with the Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.

THIS SYLLABUS PROVIDES A GENERAL PLAN FOR THE COURSE; DEVIATIONS MAY BE NECESSARY.

General Course Considerations

Learning calculus has become a central skill in many scientific and professional careers, perhaps the most important skill. Whether calculus proves to be a barrier or a gateway for you depends on how well you learn it. We want you to do as well as you possibly can. It is for this reason that so much structure is provided, including: lectures; supplemental instruction; office hours; Math Assistance Complex; practice homeworks; online assignments; various help resources. Many excellent calculus help resources exist in the Internet, such as: http://www.calculus-help.com/, http://www.hippocampus.org/, http://www.karlscalculus.org/, http://tutorial.math.lamar.edu/Classes/CalcI/CalcI.aspx, http://interactmath.com/Home.aspx, and there are surely many more out there.

Lectures
Your four class hours each week are spent in lecture, where the instructor explains the concepts and methods of calculus. At lecture, you should try to get a sense of what is the most important for you to fully understand so that you can study efficiently. To get the most out of class time, it is crucial that you have seriously attempted the assigned homework **in advance**. We will try to focus on the areas where students are having difficulty; this is clearly impossible if you do not attempt the assignment ahead of time.

Office hours (and other help resources)
All calculus instructors have office hours which you can attend for additional, more individualized help. If you need such assistance, it is wise not to wait until the week before an exam to go to office hours for the first time, since that is when the instructor will be swamped with students.

Practice and graded homeworks
Most of your work in calculus will be spent on homework assignments. This can be more time consuming than in many other courses. The average student should spend at least 10 hours per week outside of class to master calculus well. This includes time for reading text, solving assigned homework problems (the minimum work required), and discussing the harder problems with your peers or tutors (or the instructor). Many students will need more than 10 hours per week of practice.

Writing in Math 2212
Your grade on the exams and homeworks will be based on clear presentation as well as correct mathematics. It is a good idea to model your writing on the examples worked in class and posted on uLearn. If you are unsure of whether or not your written work is acceptable, you should ask about it. Some of the problems chosen for written assessments will require you to use two or more concepts together to solve a problem you have not yet seen before. This means you should make an effort to gain a strong understanding of the concepts in addition to working example problems. Please be aware that the process, and not merely the final answer, is critical to your understanding of the material and your success in the course. Precise, effective writing will be rewarded. Careless or incomplete work will be penalized, even if by chance it leads to a correct numerical answer. This means your final answer is worth less than the procedure you used to get your answer.

Supplemental Instruction
Supplemental Instruction (SI) incorporates collaborative learning in small, peer-led, group settings in order to integrate instruction in learning and reasoning skills with course content. National data suggest that students who regularly attend SI sessions are more likely to earn a higher grade in the course. Through structured one-hour sessions in an academic setting, students are encouraged to work collaboratively to identify what to learn with how to learn it. Several studies have been performed that speak to the efficacy of SI. For example, one study indicated that SI participation in calculus was statistically and practically significant, an average of a 1.8

letter grade improvement. This same study found that there was a sizable, statistically significant improvement with SI participation after accounting for gender and ability/motivation selection biases. The odds of success were 2.7 times greater for the SI participants. No gender differences of any significance were found. For more information on SI see http://www.umkc.edu/cad/si/.

Tentative course outline: This day by day outline provides a general plan for the course; deviations may be necessary.

Week	Date	Sections
1	20-Aug	Intro, 2.1, 2.2 (briefly)
1	22-Aug	2.3, 2.4
2	27-Aug	2.5
2	29-Aug	2.6
3	3-Sep	No classes (Labor Day)
3	5-Sep	3.1, 3.2
4	10-Sep	Test-1 Review
4	12-Sep	Test-1
5	17-Sep	3.3, 3.4
5	19-Sep	3.5
6	24-Sep	3.6, 3.7
6	26-Sep	4.1
7	1-Oct	4.2
7	3-Oct	4.3-4.4
8	8-Oct	Test-2 Review
8	10-Oct	Test-2
9	15-Oct	4.5
9	17-Oct	4.6
10	22-Oct	4.7, 4.8
10	24-Oct	4.9
11	29-Oct	4.10
11	31-Oct	5.1, 5.2
12	5-Nov	Test-3 Review
12	7-Nov	Test -3
13	12-Nov	5.3
13	14-Nov	5.4
14	19-Nov	No classes
14	21-Nov	(Thanksgiving Break)
15	26-Nov	5.5, 5.6
15	28-Nov	5.7
16	3-Dec	Final Exam Review
17	5-Dec	Final Exam

MATH-2211 Practice Problems
Calculus of One and Several Variables, 10th Edition , Salas, Hille, and Etgen

Section	Assignment
2.1	1 – 49 odds
2.2	1 – 21 odds
2.3	1 – 43 odds
2.4	1 – 37 odds
2.5	1 – 37 odds
2.6	1 – 23 odds
Chapter 2 Review	1 - 45 all, but omit 31
3.1	1 – 41 odds
3.2	1 – 43 odds and 49, 51
3.3	1 – 43 odds and 57, 59
3.4	1 – 15 odds
3.5	1 – 51 odds
3.6	1 – 55 odds
3.7	1 – 41 odds
Chapter 3 Review	1-46 all
4.1	1 – 13 odds and 17
4.2	1 – 23 odds and 33 - 49 odds
4.3	1 – 27 odds
4.4	1 – 33 odds
4.5	1 – 35 odds
4.6	1 – 21 odds and 27 - 37 odds
4.7	1 – 37 odds and 43 – 47 odds
4.8	1 – 53 every other odd
4.9	1-37 odds
4.10	1-27 odds
Chapter 4 Review	1-53 all, but omit 25 and 46 - 48
5.2	1 – 17 odds, but omit 13
5.3	1 – 13 odds
5.4	1 – 57 odds, but omit 39, 53
5.5	1 – 25 odds
5.6	1 – 33 odds
5.7	1 – 81 odds, but omit 35