

Math 1231 – Single Variable Calculus 1

T-TH 12:45-2:00 pm, Phillips Hall B152

First-day Handout, Fall 2016

TEACHER: Dr. Maria Gualdani, Phillips Hall 715, gualdani@gwu.edu, Phone: 202 994 4887

OFFICE HOURS: Wednesdays 2-4pm, Thursdays 11-12pm and by appointment

COURSE'S WEBPAGE: http://home.gwu.edu/~gualdani/Calc_1_12/calc1_12pm.html

Teaching Assistants: Seung Yeop Yang, Phillips Hall 725, syyang@gwu.edu

Office hours: In Phillips Hall 725 Mondays 3-5 pm

Recitation Sessions:

Section 33: with Yang, S.Y. in 1957 E 314, Mondays 8:00 - 8:50 am

Section 34: with Yang, S.Y. in 1957 E 315, Mondays 9:35 - 10:25 am

Section 35: with Yang, S.Y. in 1957 E 315, Mondays 11:10 - 12:00 pm

Bulletin Course Description: Limits and continuity. Differentiation and integration of algebraic and trigonometric functions with applications.

Prerequisite: Placement examination or a score of 720 or above on the SAT II in mathematics.

This course consists of 2 lectures and 1 recitation section per week.

The lectures are given by the instructor and are attended by all students. New material will be covered in each lecture.

The recitations are given by the teaching assistant and attended by all students. Exercises and review of the homework will be covered in each recitation session.

TEXT: Calculus (8th edition) by James Stewart, Brooks/Cole Publishers.

LEARNING OUTCOMES: As a result of completing this course, students will be able to:

- Calculate limits of functions and use the concept of limit to determine continuity;
- Compute derivatives of algebraic and trigonometric functions using the definition of the derivative and the differentiation rules;
- Formulate and solve optimization and related rates word problems;
- Apply the Fundamental Theorem of Calculus and the change of variables method to find definite and indefinite integrals;
- Apply the definite integral to find areas and volumes.

See the last page for a detailed list of covered topics.

CLASS SCHEDULE:

Class schedule week-by-week is available in the Calendar:

http://home.gwu.edu/~gualdani/Calc_1_12/calendar_M1231_12pm.pdf

Average minimum amount of independent, out-of-class, learning expected per week: 8 hours a week: in average 4 hours work out-of-class expected after each lecture.

GRADES: On all work, your grade will be computed as a percentage: the number of points you earned divided by the number of points possible.

The percentages of each type of work that will be applied to your final grade are given in the following.

The plus/minus option for grading will be used in this class.

HOMEWORK: (10% of final grade)

Homework comprises 10% of your grade and includes 5% for Paper Homework and 5% Online Homework.

Paper Homework: It consists into two parts:

- (1) **Recitation Problems.** (Required. 0%, do not turn them in.) For the benefit of your performance in this course, one should work on *all* of the recitation problems *before* the recitation to be able to discuss them in class and check their correctness. The TA will actively take note of who answers questions and makes substantial contributions to the discussion; the instructor will award up to 2 bonus points per exam based on this participation.
- (2) **Practice Problems:** (Required. Graded. 5%) **is assigned during regular class and collected at the beginning of the Thursdays lecture the week after. You can find all the assignments on the homepage of the class. No late homework will be accepted for any reason. In order to receive credit for an assignment, you must show all of your work, the homework paper must be stapled with no ragged edges (such as those on papers torn from a spiral notebook), your exercises must be well labeled, neat, and in order, and your assignment must be turned in before the lecture begins. PLEASE WRITE YOUR NAME, SECTION AND GW ID AT THE TOP OF THE PAGE OF YOUR TURNED ASSIGNMENTS.**

Online Homework: (Required. Graded. 5%) Online homework is assigned electronically using WebAssign, the online service for managing course assignments: <http://webassign.net>. It is synchronized with the textbook. Homework problems will be graded automatically and you will have at most five tries for each problem. At the same time, you will get an instant feedback on whether your solution is right or wrong. The correct answers will be revealed only after the due dates of the assignments.

To purchase the book and Enhanced Webassign Homework look here:

<http://services.cengagebrain.com/course/site.html?id=1239078&cid=f16bnt>

The students' entry point for WebAssign is http://webassign.net/user_support/student/

I suggest that you quickly glance through the Student Guide that is linked from there.

How to login to WebAssign:

- On the right panel of the main login page for WebAssign, click "I Have a Class Key" and enter the Class Key that the Professor will send you via email;
- If you already had a WebAssign account prior to this class, select "I already have a WebAssign account" and continue using WebAssign as before;
- If you do not have a WebAssign account yet, select "I need to create a WebAssign account" and follow the instructions;

In order to access WebAssign, you will have to get a personal access code. It either came with your textbook or will have to be bought from the WebAssign web site directly when you are logging in. You have several buying options:

RECITATION SESSION WORKSHEET: (5% of final grade). Approximately every two weeks there will be a 15 minutes problem solving test during the recitation sessions. The weeks with the tests are denoted in the Calendar with a red star (*). The tests will consist of one or maximum two problems taken from the assigned Paper Homework Problems of the previous week.

QUIZZES : (20% of final grade)

There will be FOUR 30 mins quizzes during the semester. Each quiz will comprise 5% of your final grade.

Quiz I:	Thursday September 8th
Quiz II:	Tuesday October 11th
Quiz III:	Tuesday November 15th
Quiz IV:	Thursday December 8th

EXAMS: (65% of final grade: 15% each exam and 20% final exam)

You must bring a valid photo ID to all exams. Calculators are not allowed during exams.

Regular semester exams: There will be THREE exams during the semester, each covering about 1/3 of the course material. These exams will be given during regular class time. Each exam will comprise 15% of your final grade.

Exam I:	Thursday September 22nd
Exam II:	Thursday October 27th
Exam III:	Tuesday November 29th

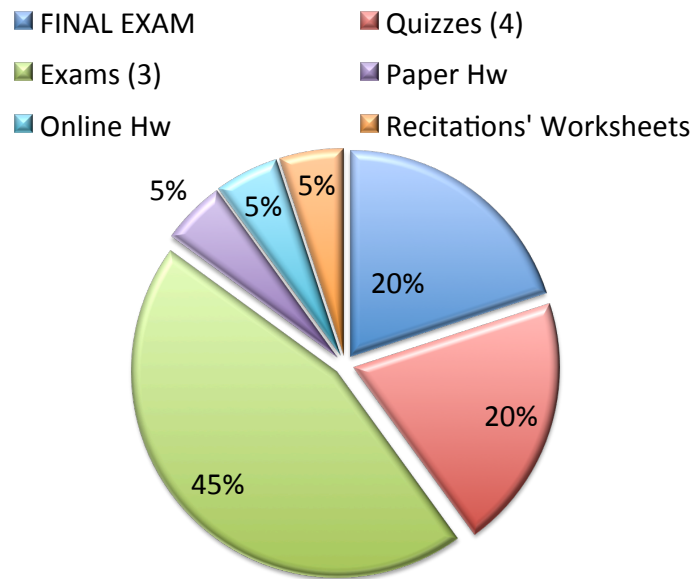
Final exam: You will have a comprehensive final exam during finals week. The final exam will comprise 20% of your final grade. In accordance with university policy, the final exam will be given during the final exam period and not the last week of the semester.

You should carefully examine the exam dates, since being available for these exams is a requirement for this course. Do not make any plans to leave town before your final exam.

Makeup exams are given only at the discretion of the teacher, and only for serious reasons such as a serious illness or an emergency. In order to have any hope of being allowed to take a makeup exam, you must contact the teacher via email *before* the exam (if physically possible), and have documentation indicating your inability to take the exam at the scheduled time. For example, that family members bought you airline tickets for travel on the day of an exam will not be an appropriate reason to miss an exam.

GRADES: 90-100	A
87- 90	A-
83 - 87	B+
80 - 83	B
77 - 80	B-
73- 77	C+
70 - 73	C
65 - 70	C-
60 - 65	D+
55 - 60	D
50 - 55	D-
below 50	F

Your final grade



All your grades of homework, quizzes, tests and exams will be uploaded in **Blackboard**.

Incomplete Grade (I)

GWU and CCAS policy on incompletes states that a student may be given a grade of Incomplete (I) if for reasons beyond the student's control (such as a medical or family emergency) s/he is unable to complete the work of the course, and if the instructor is informed of, and approves, such reasons before the date when grades must be reported.

An incomplete may only be given if the student asks for an Incomplete and if s/he has been passing in the course until such time as the Incomplete was requested. A contract must be signed by the instructor and the student and filed in the department office. Contract forms are available online on the CCAS webpage and in Phillips 107.

The course work must be completed within the time decided by the professor from the end of the semester. If the student does not complete the course work within this time framework, the "I" becomes a failing grade of "F".

All students who receive an Incomplete must maintain active student status during the subsequent semester(s) in which course work is being completed.

When work for the course is completed, the instructor will submit the final grade to the Office of the Registrar and the final grade will replace the symbol I. If work for the course is not completed within the designated time, the grade will be automatically converted to a grade of F, Failure, 0 quality points, and the grade-point average and academic standing recalculated.

STUDENT CONDUCT: All computers, cell phones and other hand-held devices must be put away in SILENT mode out of sight during class and during exams.

ATTENDANCE: This course is structured with the expectation that you will attend every lecture and your grade will benefit from your attendance. Please introduce yourself to and get the names and phone numbers of at least five classmates below.

- 1.
- 2.
- 3.
- 4.
- 5.

Effective Study Habits: http://home.gwu.edu/~gualdani/Calc_1_12/StudySkillsIntro.pdf

Calculus Lab: The Calculus Lab serves to enhance your calculus learning. The Lab is staffed by graduate students and senior undergraduate who will help you to better understand the materials. For more information see: <https://math.columbian.gwu.edu/calculus-lab>

Course Syllabus (short description):

1. Review of Functions
2. Tangent and velocity problems
3. Limit of Functions
4. Calculating Limits using Limit Laws
5. The precise definition of limit
6. Continuity
7. Derivatives and Rate of Changes
8. Derivative as a function
9. Differentiations Formulas
10. Chain rule
11. Implicit differentiations
12. Related rates
13. Linear Approximation and Differentials
14. Maximum and Minimum Values
15. Mean Value Theorem
16. How Derivatives Affect the shape of a graph
17. Limits at infinity, horizontal asymptotes

18. Curve Sketching
19. Antiderivatives, Sigma Notation and Summation Formulas
20. Areas and distances
21. The Definite Integral
22. The fundamental theorem of calculus
23. Indefinite integrals and the net change theorem
24. The substitution rule
25. Areas between curves
26. Volume
27. Volumes by cylindrical shells.

University Policy on Religious Holidays

1. Students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance.
2. Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations.
3. Faculty who intend to observe a religious holiday should arrange at the beginning of the semester to reschedule missed classes or to make other provisions for their course-related activities

Support for Students Outside the Classroom

Disability Support Services (DSS): Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Rome Hall, Suite 102, to establish eligibility and to coordinate reasonable accommodations.

Mental Health Services (phone 202-994-5300): The University's Mental Health Services offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include: crisis and emergency mental health consultations confidential assessment, counseling services (individual and small group), and referrals.

Academic Integrity Code

Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information. For the remainder of the code, see: studentconduct.gwu.edu/code-academic-integrity