

The George Washington University
Department of Mathematics
Math 1231–14 (CRN 12802): Single-Variable Calculus I
Fall 2016
MW 12:45–2:00pm
1957 E Street, Room B17

Instructor

Prof. Valentina Harizanov

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Office Hours: M 2:10–3:35pm

W 2:10–3:35pm

At other times by appointment.

Mathematics department

Office: Phillips Hall (801 22nd Street), Room 739

Tel: (202) 994–6235

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Teaching assistant/Recitation leader

Hakim Walker

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Tel: (202) 994–0304

E-mail: hjwalker@email.gwu.edu

Office Hours: Th 1:00–3:00pm

At other times by appointment.

Recitations: Tuesdays

Must register for one recitation section:

Section 42 (CRN 13844), Tu 8:00–8:50am, 1957 E Street, Room 111

Section 43 (CRN 13845), Tu 9:35–10:25am, Monroe Hall (2115 G Street), Room 350

Section 44 (CRN 13846), Tu 12:45–1:35pm, Monroe Hall (2115 G Street), Room B32

Calculus Lab: MTuWTh 5:30–8:30 pm, Phillips Hall (801 22nd Street), Room 730

Staffed by math department teaching assistants, and will provide one-on-one support for students in our calculus courses. The dates of operation are September 6 – December 15, 2016.

Schedule at <https://math.columbian.gwu.edu/calculus-lab>

Textbook

Calculus by James Stewart, **8th edition**, Cengage Learning, 2016.

Prerequisite

A score 75 or higher on the on-line mathematics department placement exam at <https://math.columbian.gwu.edu/gw-mathematics-placement-test> or a score of 720 or higher on the SAT II in mathematics.

Course outline

Chapter 1. Limits and continuity

Chapter 2. Derivatives (omitting 2.7)

Chapter 3. The mean value theorem; curve sketching; optimization (omitting 3.6 and 3.8)

Chapter 4. Integrals; the fundamental theorem of calculus

Chapter 5. Applications to area and volume (covering 5.1, 5.2, and 5.3)

Learning goals

As a result of completing this course students should be able to:

1. Understand and explain the basic concepts and prove fundamental results involving limits, derivatives, and integrals;
2. Know product, quotient, and chain rules and apply them to compute derivatives of various functions;
3. Analyze qualitative features of functions (such as regions of monotonicity and concavity, and extreme points) using derivatives;
4. Apply the fundamental theorem of calculus to evaluate definite integrals;
5. Demonstrate how the substitution method is used to compute given integrals;
6. Explain and solve real-life problems arising in geometry, physics, biology, and economics by creating calculus-based models.

Graded homework

Regular on-line assignments will be given via the web-based homework management system known as WebAssign. Register at www.webassign.net and use the class key **gwu 9496 9300**

All homework needs to be completed electronically on schedule. No late homework will be accepted for any reason. Working in groups to discuss homework problems is not only permitted but is encouraged. However, the final submitted answers must be your own work, composed by you without copying from any source.

Grading

Final Exam (cumulative two-hour exam): 35%

The final exam is scheduled by the University during the final exam period.

Tentative schedule can be found at:

<https://registrar.gwu.edu/sites/registrar.gwu.edu/files/downloads/Fall2016TentativeExams.pdf>

Midterm Exam (given in class), Monday, October 10, 2016: 20%

Homework: 15%

Quizzes (given in recitations): 30%

Quiz #1, Tuesday, September 13, 2016: 6%

Quiz #2, Tuesday, September 27, 2016: 6%

Quiz #3, Tuesday, October 18, 2016: 6%

Quiz #4, Tuesday, November 15, 2016: 6%

Quiz #5, Tuesday, November 29, 2016: 6%

For letter grades: 90% will be at least A-, 80% will be at least B-, 65% will be at least C-, and 50% will be at least D-.

Attendance/Absence policy

Students are expected to attend all lectures and recitations, and are responsible for learning all material covered in lectures and recitations.

If you must be away from class on a given day on which there is a quiz or an exam, please contact us before the class and explain the need for your absence. In such a situation, your absence can be excused, although there will not be any opportunities to make-up missed quizzes. Work missed owing to excused absence will not count against a student's grade. (Still, students are responsible for learning the material that is covered, even if they cannot be in class.)

Cell/smart phones, laptops, ipads

All such potentially distracting devices must be turned off during class. During the tests, all such devices, as well as calculators, notes, books and all other possible forms of assistance, must be in closed bags. However, computers and calculators may be used to do homework problems.

Work outside class

More than 2/3 of the time you devote to this class should take place outside the classroom (lectures and recitations). Even the best students in the class should plan on spending an average of at least 6 hours a week on homework and other studying. Many students may need to spend more time in order to master the material and earn a grade they will find acceptable.

Blackboard

Announcements, past tests, and other learning material or relevant information will be posted on blackboard: <https://blackboard.gwu.edu/>

Use your Net Id and password to access blackboard.

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

Support for students outside the classroom

Academic support services: <http://advising.columbian.gwu.edu/academic-support>

Disability student services

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 Rome Hall, Suite 102, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: gwired.gwu.edu/dss/

Mental health services: 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: counselingcenter.gwu.edu/

University policy on religious holidays: <http://students.gwu.edu/accommodations-religious-holidays>

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.

Faculty should extend to these students the courtesy of absence without penalty on such occasions, including permission to make up examinations.

Emergency preparedness: www.gwu.edu/~gwalert