

# Multivariable Calculus (MATH 137-10)

Summer 2018

**Class Meetings:** MTWR 1:00 pm - 3:40 pm in Reiss 281

**Course Website:** <http://canvas.georgetown.edu/>

**Instructor:** Dr. Maryam Yashtini

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Office: 311 Saint Mary's Hall

Office Hours: TBA

**Prerequisite.** Calculus II.

**Course Description.** This is a first course in differential and integral calculus of functions of several variables. After the introduction of vectors and the 2 and 3-dimensional Euclidean space, functions of several variables are discussed. Functions of two variables will be visualized by surfaces in the three-dimensional space. Further topics include partial derivatives and the total derivative of real-valued and vector-valued functions, the chain rule, directional derivatives, extrema of real-valued functions, constrained extrema and Lagrange multipliers, double and triple integrals, and the change of variables formula in multiple integrals.

**Textbook.** *Thomas's Calculus: Multivariable (13th edition)*, by Thomas, Weir, and Heil; Pearson, 2013.

**Homework.** Textbook problems will be assigned regularly during the semester, but they will not be collected. Your exams will be similar to these problems. Therefore, you are strongly recommended to do all homework problems.

**Exams.** There will be four in-class (75 minutes) exams which take place on Thursdays, and a comprehensive final. The tentative dates are shown in the course calendar in the next page. No make up exam will be given. For this reason, your *lowest* exam grade will be dropped.

**Course Grade.** Your course grade is based on the three exams (25% each) and a comprehensive final (25%). The following scale is used to relate percentage or point score to letter grades.

|           |           |             |
|-----------|-----------|-------------|
|           | 100-96: A | 95-91: A-   |
| 90-86: B+ | 85-81: B  | 80-76: B-   |
| 75-71: C+ | 70-66: C  | 65-61: C-   |
| 60-56: D+ | 55-50: D  | below 50: F |

You have *one week* to question a grade after receiving it. After that, the grade is final.

**Bonus.** There will be a 5% bonus for attendance, participation, and following the course policies.

**Course Policies.** Disruptive behaviors, including excessive talking, arriving late to class, sleeping, and eating during class is not permitted. Cell phones should be silent and kept out of sight. Students who use laptops, iPads, or Kindle for note-taking must sit up front. All exams and quizzes are closed notes and closed book, and no calculator and no wireless devices are allowed. No make-up exam/quiz will be given. The student who misses a class meeting is responsible for any assignments and/or announcements made in class. Office hours will not be utilized to re-teach material presented in class.

**Success:** Your success in this course depends largely on your attitude and effort. Here are a few essential elements to succeed:

- Engage (participate and be proactive) in class
- Complete the textbook assignments on time—if you get stuck, review the lecture material and/or visit office hours for timely help
- Keep up with the pace of the course and do not fall behind.

**Note.** You should also expect to spend a minimum of 2 hours working on your own for every hour of classroom instruction.

**The Honor System.** All students are expected to comply with the Georgetown University Honor System, can be found at <https://honorcouncil.georgetown.edu/system/policies>. Any evidence of cheating will result in a report to the Honor Council.

| Weeks  | MONDAY          | TUESDAY | WEDNESDAY                        | THURSDAY                         | FRIDAY |
|--------|-----------------|---------|----------------------------------|----------------------------------|--------|
| Week 1 | <b>June 4</b>   | 5th     | 6th                              | 7th<br><b>Exam 1</b>             | 8th    |
| Week 2 | 11th            | 12th    | 13th                             | 14th<br><b>Exam 2</b>            | 15th   |
| Week 3 | 18nd            | 19rd    | 20th                             | 21st<br><b>Exam 3</b>            | 22nd   |
| Week 4 | 25th            | 26th    | 27th                             | 28th<br><b>Exam 4</b>            | 29th   |
| Week 5 | <b>July 2nd</b> | 3rd     | 4th<br><small>US holiday</small> | 5th<br><small>Last class</small> | 6th    |