
Prerequisites. Proficiency in differential and integral calculus which correspond to the materials in Math 10a and Math 10b respectively.

Exams. There will be one midterm exam and one final exam.

Grades. Your grade in the course will be based on the following:

1. **Homework (20% of your grade)**
   - Several homework problems will be assigned for each class.
   - Homework will be collected twice per week.
   - We encourage you to discuss homework problems with your classmates, but you must write up your own solutions.
   - The goal for doing homework is to get yourself familiarize with basic concepts to follow the course.

2. **Quizzes (20% of your grade)**
   - One short quiz will be given every week.
   - Missed quizzes count as zeroes. However, the lowest 25% of your quiz grades will be dropped.

3. Midterm exam (30% of your grade)
4. Final exam (30% of your grade)

Calculators. Calculators are **not** allowed during exams or quizzes. You do not need a graphing calculator.

LATTE. All course materials for Math 20a will be available online on LATTE. Log in at [http://latte.brandeis.edu](http://latte.brandeis.edu) using your Unet username and password.

Office hours. You are encouraged to come to office hours whenever you have questions about the course material. If you can’t attend office hours, don’t hesitate to ask for an appointment at another time.

Four-Credit Course. Success in this 4 credit hour course is based on the expectation that students will spend a minimum of 9 hours of study time per week in preparation for class (readings, papers, discussion sections, preparation for exams, etc).

Students with disabilities. If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please contact me immediately.

Academic Integrity. You are expected to follow the University’s policy on academic integrity, which is distributed annually as Section 4 of the Rights and Responsibilities Handbook (see [http://www.brandeis.edu/studentaffairs/sres/rr/index.html](http://www.brandeis.edu/studentaffairs/sres/rr/index.html)). Instances of alleged dishonesty will
be forwarded to the Department of Student Development and Conduct for possible referral to the Student Judicial System. Potential sanctions include failure in the course and suspension from the University. If you have any questions about how these policies apply to your conduct in this course, please ask.

**Learning Goals for Math 20a.** Students in Math 20a will:

- Interpret and manipulate vectors, and perform dot and cross product calculations.
- Extend the definition of the derivative and integral to vector functions.
- Define and compute partial derivatives.
- Construct level curves and find tangent planes to vector functions.
- Interpret and compute directional derivatives.
- Define and determine differential and gradient of a multivariable function.
- Compute double and triple integrals (including changing the order of integration).
- Interpret vector fields and compute line integrals.
- Compute and interpret the curl and divergence of vector fields.
- State Green’s and Stoke’s theorems and apply them to solve integration problems.