

MATH 241

VECTOR CALCULUS

SPRING 2016

BASIC INFORMATION

Class

- Tue. 3:10-4:30
- Thur. 3:10-4:30
- Hegeman 308

Instructor

- Ethan Bloch
- bloch@bard.edu
- Albee 317
- 758-7266

Office hours

- Mon. 10:30-11:30 & 2:30-4:00
- Tue. 11:000-12:30
- Wed. 2:30-4:00

Text

- Stewart, James, "Calculus: Concepts and Contexts," 4nd ed., Paperback, Brooks/Cole

Website

- <http://math.bard.edu/bloch/math241.shtml> (includes updated list of assignments)

Communications

- Urgent announcements may be sent out via campus email, so make sure you either check your Bard email or have it forwarded to your email address of choice.
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WORK FOR THE COURSE

Attendance

- It is expected that students attend all classes. Bring the text to each class.

Homework

- Homework will be assigned at the end of every class. Turn in the homework at the start of the next class. Late assignments will not be accepted, except in emergency situations.
- You are encouraged to work with other students in solving the homework problems. However, for the sake of better learning, as well as honesty, please adhere to the following guidelines:
 - › **Write up your solutions yourself.**
 - › **Acknowledge in writing anyone with whom you work and any assistance you receive.**
 - › **Acknowledge in writing any revisions of your work based upon solutions given in class.**
- Failure to indicate collaboration, assistance or sources will be construed as plagiarism.
- Your solutions should be written clearly and carefully, as described below.

Quizzes and Exams

- All quizzes and exams will be in-class, closed-book.

Quiz #1: Tue., Feb. 16

Quiz #2: Tue., Mar. 1

Midterm Exam: Thur., Mar. 17

Quiz #3: Tue., Apr. 12

Quiz #4: Thur., Apr. 28

Final Exam: Tue., May 24

WHAT IS MATH 241

- This course is the final course in Bard's Calculus/Linear Algebra/Differential Equations sequence. Topics covered include vector-valued functions, gradient, the chain rule, Lagrange multipliers, change of variables for multiple integrals, line integrals, Green's Theorem, sequence, series and power series.
 - The prerequisites for this course are Math 142 (Calculus II) and Math 213 (Linear Algebra and Ordinary Differential Equations), or the equivalent. If you are unsure whether Math 241 is an appropriate course for you, please consult with the instructor.
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OFFICE HOURS

- If you have any problems with the course, or any questions about the material, the assignments, the quizzes, the exams or anything else, please see the instructor about it as soon as possible. If you cannot make any of the scheduled office hours, please make an appointment for some other time. To make an appointment, or to discuss anything, talk to the instructor after class, or send him an email message, or just stop by his office.
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GRADING

- Grades will be determined primarily by the quizzes and exams. Homework assignments and class participation will be taken into account positively, especially in cases of borderline grades.
 - Grades will be determined by work completed during the semester, except in cases of medical or personal emergency. There will be no opportunity to do extra credit work after the semester ends.
 - This course is graded using letter grades. If you want to take the course Pass/Fail, you must submit a request to do so to the Registrar's Office during the Add/Drop period.
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COMPUTERS, CALCULATORS AND ELECTRONIC DEVICES

- For most of the course, pencil and paper will suffice.
 - A scientific calculator (which has trigonometric, exponential and logarithmic functions) will be needed for some homework problems. Free scientific calculator apps are available for smartphones, tablets and computers. Programmable and/or graphing calculators are not required.
 - We will occasionally use the free online computer algebra system Sage, as will be discussed in class.
 - **Electronic devices, including cell phones, tablets and laptop computers, may not be used during class, other than as calculators or to read the text.**
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IMPORTANT ACADEMIC DATES

Wed., Feb. 17: End of Drop/Add; last day to request Pass/Fail
Mon., Mar. 21 — Fri., Mar. 25: Spring break
Mon., May 2 & Tue., May 3: Advising days (no classes)

Tue., May 3: Last day to withdraw from a class
Wed., May 4: Senior projects due by 5:00 pm
Tue., May 24: Last day of classes

ACCOMMODATIONS

- Students with documented learning and/or other disabilities are entitled to receive reasonable classroom and testing accommodations. If you need accommodations, please adhere to the following guidelines:
 - **Discuss your needs with the instructor at the beginning of the semester.**
 - **Provide documentation as appropriate.**
 - **Contact the instructor at least one week prior to each exam or other instance of accommodation.**
 - If you need to miss a class for any reason (sports team, religious holiday, etc.), it is your responsibility to contact the instructor and find out about the material and assignments you missed.
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WRITING HOMEWORK

- Everyone makes honest mathematical mistakes, but there is no reason to get in your own way by writing your homework carelessly. Mathematics must be written carefully, and legibly, no differently from any other writing.
- This course is the final course in Bard's Calculus/Linear Algebra/Ordinary Differential Equations sequence. As such, it is often taken just before Proofs and Fundamentals and 300-level mathematics courses. Those courses place a much greater emphasis on the proper writing of mathematics than lower-level mathematics courses. In preparation for those more advanced courses, a greater emphasis will be placed upon the careful writing of homework assignments in Math 241 than in previous mathematics courses.
- Please adhere to the following guidelines when writing homework assignments:
 - Write your homework assignments neatly and clearly.
 - Distinguish between scratch work and the final draft. Expect to do scratch work on separate paper prior to writing the final draft.
 - Your final draft should stand on its own; check your solutions by reading them as if they were written by someone else.
 - Write every step of your solutions. Numerical answers without justification, or partial calculations, are not acceptable.
 - Write your solutions in a logical, step-by-step format. Equations on the page in random order, or unlabeled calculations, are not acceptable.
 - Use verbal explanations whenever needed. Formulas and calculations are not always sufficient.
 - Be very careful with "=" signs. You must write "=" between things that are equal, and not write "≈" between things that are not equal.
 - While it is not required in this course to write the homework assignments in full sentences and with correct grammar and proper punctuation, doing so is always beneficial, and would be good preparation for some more advanced mathematics courses.
- Please see the instructor if you have questions about writing -- or doing -- the homework assignments. If you are not sure if you have written a homework assignment properly, bring a draft with you to office hours.

RESOURCES

Mathematics Study Room

- The Mathematics Study Room is open Sunday--Thursday, 7pm–10pm, in RKC 111.
- The Mathematics Study Room is staffed by undergraduate mathematics majors who are available to answer your questions. You can go to the study room to work on your homework, and then ask for help as needed.

Tutors

- For additional help beyond office hours and the Mathematics Study Room, you can request to meet with a tutor. Contact the instructor for information.