Multivariable Calculus
Fall Semester 2017

Course MATH 267 Section 1 MTWF 12:00–12:50pm RB 118

Instructor Dr. Hanspeter Fischer

Contact Office: RB 426
Phone: (765) 285-8680
E-mail: hfischer@bsu.edu (please use MATH 267 as subject line)
http://www.cs.bsu.edu/~fischer/math267

Office Hours Mon 10:00–10:50am, Tue 11:00–11:50am, Wed 10:00–10:50am,
Fri 11:00–11:50am, and by appointment.

Prerequisites MATH 166.


Contents This course will cover Chapters 12 through 16 of the textbook. We will begin with an introduction to vectors and the geometry of space: Chapter 12. In Chapters 13, 14, and 15, we will then extend many concepts from single-variable calculus to several variables. We will learn that some notions generalize in very straightforward ways, while others exhibit more complexity in several variables than they do in one variable. One of the highlights of the course will be to learn about higher dimensional analogs of the Fundamental Theorem of Calculus, namely the theorems of Green, Gauss, and Stokes in Chapter 16. Just as the Fundamental Theorem of Calculus has numerous applications to modern sciences, these theorems are at the very heart of many advanced fields, such as electromagnetism and hydrodynamics. If time permits, we will also discuss planetary motion, the analysis of which was the driving force behind the invention of calculus more than 300 years ago.

Homework Homework will be assigned as we work through the sections of the text. It will be due and discussed on the days labelled “Discussion” in the attached schedule. The assignments (with due dates) will be available online at above website.

Some problems will be assigned for practice only, while other designated problems will be collected and graded. Homework will be collected at the beginning of class. When submitting exercises, make sure to have your name, course number, and section number on all pages of your assignment in order to be eligible for credit.

Technology For some parts of your homework, you will be asked to use the software package Mathematica, which is available on the machines in the department’s computer lab (RB 452). Students can also download Mathematica for free, access it online, or use the Wolfram Cloud app.
Examinations  There will be three (in-class) midterm examinations. The comprehensive final exam will be on Wednesday, December 13, 12:00–2:00pm. All exams must be taken at their scheduled time (see attached timetable); the only exception being a verifiable illness or family emergency, of which you must inform your instructor before the test.

Evaluation  Each of the three midterm exams is 20% of your grade and the final exam represents 30%. Homework accounts for the remaining 10%.

The approximate grading scale (in percent) is:
A: 90–100, B: 80–90, C: 70–80, D: 60–70, F: below 60.

Timetable  A tentative schedule is attached. See above website for updates.

Deadlines  The last day to change a course is Sunday, August 27. The withdrawal period is Monday, August 28, through Wednesday, October 25. During this period, students can elect to receive a “W” for the course by completing and submitting the proper form to the Registrar’s Office. The instructor’s permission is not required. For details, see the section Withdrawal under Degree Requirements and Time Limit in the current Undergraduate Catalog.

General Remarks  (1) Students are expected to come prepared to all meetings, having read upcoming sections of the textbook. Be always up to date.

(2) It takes time to digest and master new abstract concepts. Expect to be studying for a minimum of two hours outside of class for each hour in class. Missing class is a major setback!

(3) Everybody is strongly encouraged to form study groups with classmates. However, claim credit only for your own work.

(4) If you need course adaptations or accommodations because of a disability, please contact me as soon as possible. Ball States Disability Services office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or dsd@bsu.edu.

(5) Ball State University aspires to be a university that attracts and retains a diverse faculty, staff and student body. We are committed to ensuring that all members of the campus community are welcome through our practice of valuing the various experiences and world views of those we serve. We promote a culture of respect and civil discourse as evident in our Beneficence Pledge. For Bias Incident Response service information, go to bsu.edu/multiculturalcenter/bias or e-mail mc2@bsu.edu.

(6) Please turn cell phones off during class. Thank you.