CONTACT INFORMATION

Professor: James Bernhard
Office: Thompson Hall 390G
Email address: jbernhard@pugetsound.edu
Office hours: TBA — see course website

My phone number is 879-3812, but the phone is usually one of the slowest ways to reach me. Email is usually much faster. (All of my email is forwarded to another account, and you may receive email from me at that account as well.)

The course website is the best resource for information about the course. Among other things, it contains a complete calendar for the semester, including all assignments. Also, if you email me a password, you will be able to access your grade-to-date any time during the semester via the course website.

LEARNING OBJECTIVES The primary goals of this course, in order of importance, are:

1. To learn to read and write mathematical proofs, in the higher mathematics sense of the term.
2. To gain an understanding of introductory linear algebra, which involves connecting algebra and geometry in a way that develops a geometric intuition in spaces of more than three dimensions.

We will study linear algebra for its intrinsic interest, for its applications, and as an introduction to reading and writing mathematical proofs.

PREREQUISITES The prerequisite for this course is Mathematics 181 (Calculus II) or the equivalent. If you have not met this requirement or are not sure if this is an appropriate course for you, please see me and we can discuss the course’s suitability.

COURSE MATERIALS The primary textbook for the course is Linear Algebra: A Geometric Approach, a book that I am writing. The first part of this book is available at the bookstore. If you would like a pdf version of it, just let me know. I plan to make further material from the book available later in the semester. No particular technology is required for this course, although access to a computer might be helpful at times.

COURSEWORK The coursework consists of:

- Approximately weekly homework assignments.
- Two in-class tests (on Chapters 1 and 2).
- Four take-home tests (on Chapters 3, 4, and 5, and on applications).

There is no final exam for this course. The course is finished on the last day of class.

The homework assignments are to help you learn the course material and to develop your mathematical proof-writing skills. Another important and related purpose of these assignments is to allow me to give you feedback on your mathematical proof-writing.

The first part of the course will contain two in-class tests. Internalizing the material from this part of the course is particularly important, both for the rest of the course and for later mathematical study. Having tests in class is designed to give you an incentive to do this.

The second part of the course will contain four take-home tests, three on linear algebra itself and one on applications of linear algebra. While you may eventually want to internalize this material, doing so is not crucial at this point in your mathematical studies. As such, you will be allowed a greater time span and wider access to mathematical resources for these tests.
**Grading** Your grade will be based on my assessment of your understanding of the material. By default, I will weight the various components of the course as follows:

- Homework 25%
- Chapter 1 test (in-class) 10%
- Chapter 2 test (in-class) 10%
- Chapter 3 test (take-home) 15%
- Chapter 4 test (take-home) 15%
- Chapter 5 test (take-home) 15%
- Applications test 10%

However, these weights are subject to change due to individual circumstances, so if you believe the above components do not accurately represent your understanding of the material, then you should let me know. If the circumstances dictate, I can work with you to find another way to demonstrate your understanding of the material.

**Policy on Late Work** I will not accept late work without an appropriate reason, which you should explain to me before the work is late if possible. If you are falling behind or need to turn something in late, please see me so that we can discuss it.

**Academic Honesty** You are allowed to work with anyone — including each other, tutors, and me — on the homework assignments for this class, as long as you do so in a way that helps you learn the material. You are not allowed to work with anyone on any of the tests for this class (in-class and take-home), and you should not discuss a test with anyone until the class has completed it and turned it in. If you have any questions on the tests, you are allowed to ask me but no one else.

For general information on issues of academic honesty, see the official University of Puget Sound academic honesty policy at:

http://www.pugetsound.edu/student-life/student-resources/student-handbook/academic-handbook/academic-integrity/

**University Emergency Response Procedures** Please note the following information regarding the university’s emergency response procedures:

- Please review university emergency preparedness and response procedures posted at www.pugetsound.edu/emergency/. There is a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for your class and laboratory buildings.

- If building evacuation becomes necessary (e.g. earthquake), meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

- If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Stay low, away from doors and windows, and as close to the interior hallway walls as possible. Wait for further instructions.

**Other** Feel free to contact me with any questions you have regarding the course. I look forward to an enjoyable class with you this semester!