Math 0280 - Introduction to Matrices and Linear Algebra

Student Guidelines and Syllabus

About the course

The principal topics of the course include vectors, matrices, determinants, linear transformations, eigenvalues and eigenvectors, and selected applications.

Course Prerequisites

Math 0220 or equivalent, with a grade of C or better.

Textbook

The text for this course is Linear Algebra, A Modern Introduction, 4th Edition by David Poole. All students who register for this course are automatically enrolled in the RedShelf Inclusive Access program and will be charged on their Pitt student bill unless they opt out before the end of the add/drop period. This program provides students with discounted access to the digital version of the textbook and the publisher's WebAssign content, but only the textbook itself will be required. If you already have a copy of the textbook or would prefer to purchase it from a different source (for example, you may be able to find a used copy of the first or second edition at a lower cost), then you should opt out of Inclusive Access. You will be able to opt out by clicking on the "RedShelf Inclusive Access" link in your course on Canvas. More detailed instructions for opting out can be found here. If you do not opt out of Inclusive Access, then you will be able to access the digital textbook through a link to WebAssign in Canvas.

Course Objectives

Students who complete Math 0280 are expected to have mastered the fundamental ideas of linear algebra and to be able to apply these ideas to a variety of practical problems. More specifically, in Math 0280 you will be expected to:

- explore and learn the core concepts associated with systems of linear equations, manipulation of matrices, linear transformations, orthogonality, and eigenvalues/eigenvectors;

- begin to think abstractly about certain of these topics;

- understand how these ideas can be used to solve problems and compute things.

Homework/quizzes/written assignments

Each week, you will be assigned some problems to write up and hand in online through Canvas. These assignments will be graded by the Graduate Teaching Assistant. At the instructor's discretion there may be quizzes or written assignments.

Practice Homework

All sections are given a common list of practice problems from the textbook. You are expected to solve these problems, although they will not be collected and graded. Exam and quiz problems will often be modeled on these problems.

Participation

Your instructor may choose to grade you based on participation. Note that you are NOT required to attend any synchronous lectures under the Flex@Pitt model, hence participation will be judged based on other criteria. For example, your instructor may ask you to complete periodic surveys to obtain feedback, watch videos, or complete qualitative assignments in groups to help you synthesize concepts. Including this component of the course is your instructor's prerogative, hence some sections may exclude it and adjust the weight of other assignments.

Administration of Exams and Quizzes

Instructors and TA's will use Canvas to administer exams and quizzes. This may be coupled with a secondary tool such as Gradescope to allow for submission of handwritten work, but all information about these assignments will be available to you within the Canvas environment.

Exams and quizzes will have release dates and due dates associated to them. A release date is a day and time at which an assignment will be made available for you to download or access. A due date is a day and time at which an assignment must be submitted. Instructors may allow you to submit items after the due date with a valid excuse.

Grades

Your course grade will be determined as follows:

- Two midterm exams: 40% (20 % each)
- Final exam: 40%
- Written assignments/quizzes/homework assignments/Participation: 20%

Some sections may deviate slightly from this formula. Any variations will be announced by your instructor at the beginning of the term.

Final Exam Policy

All day sections will take a departmental final exam at a day and time to be scheduled by the registrar. Calculators will not be permitted on the departmental final exam.

Evening sections will meet through final exam week, and the final exam will be given during the last one or two scheduled class periods.

Final Grade Policy

Your course grade will not exceed your final exam grade by more than one letter grade.

Exam Dates

See the class schedule for the dates of the two midterm exams. The date and time of the final exam will be announced by your instructor and in PeopleSoft.

Computer Accounts

As a University of Pittsburgh student, you should already have a Pitt computer account. You will need to know your username and password to access the computer resources.

Getting Help

Tutoring

The Math Assistance Center offers free tutoring by appointment, including same-day appointments for those who need immediate assistance. Appointments can be made within Pathways.

The MAC offers assistance with all courses in the math department in the range 0010-0413. In particular, the MAC is able to assist with MATH 0280.

Please see the MAC's website for instructions on how appointments are made as well as an outline of what you can expect. MAC Website

Office Hours

Your instructor and TA will announce their office hours, which will typically be conducted through Zoom.

Disability Resource Services

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and the Office of Disability Resources and Services (DRS), 140 William Pitt Union (412) 648-7890, drsrecep@pitt.edu, (412) 228-5347 for P3 ASL users, as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Course Policies

Academic Integrity

Cheating/plagiarism will not be tolerated. Students suspected of violating the University of Pittsburgh Policy on Academic Integrity may incur a zero score for the assessment in question. Additional sanctions may be imposed, depending on the severity of the infraction. Even during this COVID-19 pandemic, Academic Integrity policies will be enforced. If there is any doubt about the originality of a student's submission for an assessment, they may be asked to explain their work during a one-on-one meeting with their instructor. If the student's explanations are unsatisfactory, they may receive a zero score for the assessment, or the instructor may choose to administer an alternative assessment in a different format.

Please note, in particular, that Pitt has a data sharing arrangement with Chegg.com that enables us to identify instances in which Chegg.com has been used to cheat on assessments. Consequences of being caught in this academic integrity violation have included zero scores on

assessments and F grades for the course.

Health and Safety

In the midst of this pandemic, it is extremely important that you abide by public health regulations and University of Pittsburgh health standards and guidelines. While in class, at a minimum this means that you must wear a face covering and comply with physical distancing requirements; other requirements may be added by the University during the semester. These rules have been developed to protect the health and safety of all community members. Failure to comply with these requirements will result in you not being permitted to attend class in person and could result in a Student Conduct violation. For the most up-to-date information and guidance, please visit coronavirus.pitt.edu and check your Pitt email for updates before each class.

Diversity and Inclusion

The University of Pittsburgh does not tolerate any form of discrimination, harassment, or retaliation based on disability, race, color, religion, national origin, ancestry, genetic information, marital status, familial status, sex, age, sexual orientation, veteran status or gender identity or other factors as stated in the University's Title IX policy. The University is committed to taking prompt action to end a hostile environment that interferes with the University's mission. For more information about policies, procedures, and practices, see: https://www.diversity.pitt.edu/civil-rights-title-ix-compliance/policies-procedures-and-practices.

We ask that everyone in the class strive to help ensure that other members of this class can learn in a supportive and respectful environment. If there are instances of the aforementioned issues, please contact the Title IX Coordinator, by calling 412-648-7860, or e-mailing titleixcoordinator@pitt.edu. Reports can also be filed online: https://www.diversity.pitt.edu/make-report/report-form. You may also choose to report this to a faculty/staff member; they are required to communicate this to the University's Office of Diversity and Inclusion. If you wish to maintain complete confidentiality, you may also contact the University Counseling Center (412-648-7930).

Classroom Recording

To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities not already recorded by the instructor, without the advance written permission of the instructor, and any such recording properly approved in advance can be used solely for the student's own private use.

Copyright

Some of the materials in this course may be protected by copyright. United States copyright law, 17 USC section 101, et seq., in addition to University policy and procedures, prohibit unauthorized duplication or retransmission of course materials. See the Library of Congress Copyright Office and the University Copyright Policy.