Pennsylvania State University
Math 220, Matrices - Section 7
Spring 2015

The syllabus contents are subject to change. You will be notified in class and by email when there is any change.

Instructor

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Office Hours

Tue and Wed at 4:45-5:45 PM.

Course Website

Course materials will be available on ANGEL https://cms.psu.edu.

Course Outline And Objectives

See "Course Description and Objectives" (on ANGEL).

Textbook

Linear Algebra and its Applications by David Lay, Fourth Edition, Pearson. ISBN 0-321-38517-9

Course Format

There are two 50-minute lectures each week: Tu & Th 2:30 - 3:20 PM at Willard 273. Weekly problem sets, a midterm examination given during the semester and a final examination given during the final examination period.

Calculators

While calculators can be useful, it is by no means essential to material presented in this course. Calculators are **not allowed** on quizzes, midterms, or the final examination.

Email

Make sure to put "Math 220" in the title line. You can expect a response in 24 hours on business days.

Tutors

In addition to your classmates and instructor, you can get help from a free mathematics tutoring available through Penn State Learning. Its location is 7 Sparks on Sunday-Thursday 6-10pm starting Tuesday, January 20th. For more information, see `http://pennstatelearning.psu.edu/`.

Homework

One problem set will be assigned per week, and there will be 13 of them in total. **Three** lowest homework scores will be dropped. Problem sets are handed out every Thursday, and are due on the following Thursday **in class**. See the course schedule for the due dates. If you are not able to be present in class, send me a pdf scan of the write-up by the end of class (i.e. 3:20PM) on the due date. **No late work will be accepted.**

You are welcome to and encouraged to work in groups until you understand the problem, but **you must write up your own solution**. And when you do, you must indicate your collaborators in your write-up. The same principle applies to uses of online resources, as well. There is a plethora of resources on the web, such as Mathematics Stack Exchange, lecture notes from other universities, and so on. When you obtain ideas from those resources, you must acknowledge them **in writing**.

Quizzes

Quizzes are given on the same dates as when homework are due (with one exception: the day after the midterm). There are 12 of them in total, and two lowest scores will be dropped. Each quiz is given at the beginning of class. Each quiz is

10 minutes, and consists of two problems regarding the material on the homework due the same day. Makeup quizzes will only be given if a student has a valid and documented excuse and informs the instructor by email of their absence by the day of the quiz.

Midterm Examination

The midterm examination is given on **Wednesday, March 4th, 6:30 to 7:45PM**. Rooms for examinations will be announced at a later date. Books, notes, or calculators are **not allowed**. **You are required to bring your University ID card.**

Conflict/Makeup Examination   In addition to the regularly scheduled midterm examination, the Mathematics Department schedules two additional options: a conflict exam for the midterm from **5:05-6:20pm on the same night as the regularly scheduled exam** and a makeup exam on **March 5th (Thursday) 6:30-7:45pm**. Students who attend the conflict exam **will not be permitted** to leave before 6:25pm, although the conflict examination will end at 6:20pm. Other makeup exams can be scheduled individually after spring break.

Sign-up sheets for both the conflict exam and the makeup exam will be distributed by your instructor during class. A valid conflict/makeup reason, such as illness, class, or another official university activity, is required to sign up for either of these exams. If a student has not signed up for the conflict/makeup exam, he or she will not be permitted to take the exam. It is the student's responsibility to sign up and to note the time and location of the makeup or conflict exam, which is on the sign-up sheet.

Each student must bring his or her University ID to the conflict or makeup exam.

Who May Take the Conflict Examination?   Students who have a valid conflict with the regular examination time may sign up for the conflict exam. If you need to schedule the conflict exam, you must sign up **at least one full week** ahead of the scheduled exam date.

Who May Take the Makeup Examination?   Students who have a valid documented reason, such as class conflict or illness, during both the conflict and regular examination times are permitted to schedule a makeup examination. Personal

business, such as travel, employment, weddings, graduations, or attendance at public events such as concerts, sporting events, and Greek Rush events, is not a valid excuse. Forgetting the date, time or room of an examination is not a valid excuse.

A student who is ill on regular exam night must contact the instructor within 24 hours of the exam. Students must sign up for the Makeup Exam in class on a yellow form, as soon as possible following the regular exam date. The information is on the yellow form. The instructor must turn in the yellow form **3 class days** prior to the examination date. If a student has not signed up with his or her instructor, the student will not be allowed to take the makeup exam.

Final Examination

The final examination will be given during the week of May 4th - May 9th, 2015. **The final examination may be scheduled on any day during the final examination period. Do not plan to leave University Park until after Friday, May 8th, 2015.** Books, notes, or calculators are **not allowed**. **You are required to bring your University ID card.**

Students may access their final exam schedule Monday, February 16th, through their e-lion accounts. Notification of conflicts is given on the students' final exam schedule at the same time. Overload examinations are three or more examinations scheduled within a fifteen hour period, from the beginning of the first examination to the beginning of the third examination. Students may elect to take the three or more examinations on the same day if they wish or request a conflict final examination. **A student must take action to request a conflict exam through e-lion between February 16th and March 8th, 2015. Conflict final examinations cannot be scheduled through the Mathematics Department, and there will be no sign up sheet in class for the final conflict examination.** Students who miss or cannot take the final examination due to valid and documented reason, such as illness, may be allowed to take a makeup final examination at the beginning of the next semester. **Personal business, such as travel, employment, weddings, graduations, or attendance at public events such as concerts, sporting events, and Greek Rush events, is not a valid excuse. Forgetting the date, time or room of an examination is not a valid excuse.** Students who have taken the original final examination are not permitted to take a makeup examination.

Evaluation And Grading

Grades will be assigned on the basis of 350 points, distributed as follows:

Homework	50 points
Quizzes	50 points
Midterm	100 points
Final	150 points
Total	350 points

Final course grades will be assigned as follows:

Grade	Raw Score	Percent Score
A	324-350 points	93-100%
A–	314-323 points	90-92%
B+	303-313 points	87-89%
B	289-302 points	83-86%
B–	279-288 points	80-82%
C+	268-278 points	77-79%
C	244-267 points	70-76%
D	209-243 points	60-69%
F	0-208 points	0-59%

In special circumstances, the exact percentage of requirements for each letter grade

may be modified at the end of the course.

Expectations

Lectures   University policy requires that "[a] student should attend every class for which the student is scheduled and should be held responsible for all work covered in the course taken." Therefore, in designing lectures, homework, quizzes, and exams, I will assume that you are familiar with material presented in lectures. It is your responsibility to obtain notes from other students when you miss class.

Attending lectures will be beneficial for your learning for the following reasons. In lectures, I will outline and explain definitions and theorems along with their underlining ideas. I will emphasize intuitions in my presentation when applicable. I will speak out loud reasonings that I employ in solving example problems.

Moreover, you will have opportunities to ask questions. Feel free to ask questions before, during, and after class. Asking a good question is something that requires practice before learning to do it.

Homework   The purpose of homework is <u>not</u> to test your knowledge, but to solidify and deepen your understanding of what you see in lectures. Although homework is less than a fifth of the final grade, putting efforts into the assignments is a key to do well in the course. The quizzes and exams test what you learn in homework assignments.

For whatever reason, mathematics is something that you learn through doing rather than reading. Don't expect to just "ace" quizzes and exams without working out a number of problems thoroughly. Weekly assignments are meant to give you opportunities to solve problems as well as an idea of what kind of problems you are expected to be able to solve by the end of this course.

Collaborating with others on homework problems is strongly encouraged. Besides the obvious advantage of getting a problem set done faster, you learn how to work on a technical problem collaboratively, which is not only related to your success in this course, but also a valuable skill for your future courses and even jobs. However, you should attempt the problem independently before discussing it with others. If you come up with a solution in collaboration with your fellow students, you should rethink about it on your own to see if you really understand the solution.

Though one problem may be more difficult than another, each problem is designed so that you (and your collaborators) will be able to solve it based on lecture notes, corresponding sections from the textbook, and your reasoning skills. Don't expect to solve a problem in one try. If one approach doesn't work, think about

why it didn't work. If your initial approach isn't working at all, then look for a different approach that may be applicable.

Although you have other academic and non-academic obligations, try to learn the material as consistently as possible. To start working on assignments at least a few days before due dates is one way to achieve this.

Exams and Quizzes   Exams and quizzes are given to see what you have learned and to test your familiarity with the subject. You are expected not only to know concepts and standard techniques, but also to see which ones are useful to a given problem and be able to follow the line of thought until a complete solution, in a rather short amount of time. For some problems, it may not be immediately obvious what concepts are applicable. To solve such problems, of course, requires a certain level of mastery of the subject beyond a rudimentary one. If you remember all concepts introduced in the course, all problems on the exams will be ones that you can work out if you have enough time. But to do well on the exams requires more, and they are designed in such way.

For the purpose of measuring the level of familiarity, bringing notes is not allowed, and an unfortunate side-effect is that you may need to memorize a few formulas. This, however, is usually overcome by understanding the ideas underlining formulas.

Academic Integrity

All Penn State Policies (`http://www.psu.edu/ufs/policies/`) regarding ethics and honorable behavior apply to this course.

Academic integrity is the pursuit of scholarly activity in an open, honest, and responsible manner. Academic integrity is a basic guiding principle for all academic activity at The Pennsylvania State University, and all members of the University community are expected to act in accordance with this principle. Consistent with this expectation, the University's Code of Conduct states that all students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts.

Academic integrity includes a commitment by all members of the University community not to engage in or tolerate acts of falsification, misrepresentation or deception. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

Academic dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating of information or submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. For any material or ideas obtained from other sources, such as the text or things you see on the web, in the library, etc., a source reference must be given. Direct quotes from any source must be identified as such.

Each student in this course is expected to work entirely on her/his own while taking any exam, to complete assignments on her/his own effort without the assistance of others unless directed otherwise by the instructor, and to abide by University and Eberly College of Science policies about academic integrity and academic dishonesty. Academic dishonesty can result in assignment of "F" by the course instructor or "XF" by Judicial Affairs as the final grade for the student.

Students With Disabilities

If you have a disability-related need for reasonable academic adjustments in this course, contact the Office for Disability Services (ODS) at 814-863-1807 (V/TTY). For further information regarding ODS, please visit the Office for Disability Services Web site at `http://equity.psu.edu/ods/`.

In order to receive consideration for course accommodations, you must contact ODS and provide documentation. If the documentation supports the need for

academic adjustments, ODS will provide a letter identifying appropriate academic adjustments. Please share this letter and discuss the adjustments with your instructor as early in the course as possible. You must contact ODS and request academic adjustment letters at the beginning of each semester.

Late Drop

Students may add/drop a course without academic penalty within the first ten calendar days of the semester. A student may late drop a course within the first twelve weeks of the semester but accrues late drop credits equal to the number of credits in the dropped course. A baccalaureate student is limited to 16 late drop credits.

Deferred Grades

Students who are unable to complete the course because of illness or emergency may be granted a deferred grade which will allow the student to complete the course within ten weeks following the end date of the course. Note that deferred grades are limited to those students who can verify and document a valid reason for not being able to take the final examination. For more information see `http://handbook.psu.edu/content/deferred-grade`.