

## MAT 260-020, Linear Algebra – Fall 2012

MWF 9:00–9:50 am (Beeky 127)

**Instructor** : Yun (Amy) Lu

**Office** : 162 Lytle Hall

**Phone** : 3-4402

**Email** : lu@kutztown.edu

**Course Web site** : I expect you to be able to download material from the course web site:

<http://faculty.kutztown.edu/lu/teaching2012fall.htm>

The course web site includes the lecture slides, practise exercise, quiz/exam calendar, etc, while the grade and discussion posts will be on Desire2Learn.

**Office Hours** : MW: 1:00 - 3:00 pm, F: 1:00 - 2:00 pm, or by appointment. For your convenience, I post my regular schedule on the course website.

**Course description** : This course gives the student an opportunity to make an in-depth investigation of a specialized area of mathematics which has widespread practical applications in the arts and sciences but still allows work with abstract concepts. Topics include the study of the properties of vectors spaces; matrix theory with applications using systems or equations and determinants; linear transformations and invariants under such mappings. Students will be required to use appropriate computer software. We will cover most of chapters 1, 2, 3, 4, 5 and 6.

**Course objective** The student will:

- study the properties of the algebra of matrices along with applications using systems of equations and determinants.
- study the algebraic structure of a vector space and the properties of linear transformations of such a space using abstract concepts and proofs.
- apply methods and techniques of linear algebra to other disciplines of study outside mathematics as well as other areas in mathematics.

**Prerequisites** : Completion of MAT 224 with a grade of C or higher.

**Textbook** : *Elementary Linear Algebra: Applications Version* , 10th Edition by Howard Anton, Chris Rorres. ISBN-13: 978-0-470-43205-1

**Academic Dishonesty** : Academic dishonesty (see the Student Handbook) will not be tolerated.

- If your homework contains solutions that appear to have been copied from any source, or are similar to another students without attribution, then you will receive a negative score for that assignment.
- Any unauthorized collaboration on an exam will result in a grade of zero for the exam and possibly a grade of F for the course.

**Grading :**

- Final Exam: 20%
- Exams (3): 45%
- Quizzes: 20%
- Assignments: 10%
- Participation: 5%

**Grading Example :**

If a student achieves 60% on the Final, 70% on Exams, 80% on Quizzes, and 90% on Assignments and 80% on Participation, then his/her overall weighted average grade is  $(0.20 * 60\%) + (0.45 * 70\%) + (0.20 * 80\%) + (0.10 * 90\%) + (0.05 * 80\%) = 12\% + 31.5\% + 16\% + 9\% + 4\% = 72.5\%$ .

**Final Grade** will be determined as follows:

- *A*: 93% – 100%;                      *A*<sup>-</sup>: 90% – 92.99%;
- *B*<sup>+</sup>: 87% – 89.99%;                      *B*: 83% – 86.99%;                      *B*<sup>-</sup>: 80% – 82.99%;
- *C*<sup>+</sup>: 77% – 79.99%;                      *C*: 70% – 76.99%;                      *D*: 60% – 69.99%;
- *F*: below 60%.

**Attendance :** Attendance at each class meeting is required. Furthermore, I require that you come to class on time, and don't leave until the class is finished. Arriving classes later, or leaving class early, without a reasonable excuse, will count as an absence. Attendance will be taken regularly. If you miss a class where a test or quiz was not administered, you should seek out another student in the class to determine what was assigned during his absence, and then on your own catch up with the class. You should not come to me until after this has been done and the assignment is attempted.

**Participation :** You are also expected to actively participate in class by contributing to the discussion, asking meaningful questions, making comments, and sharing your ideas with others. I have no tolerance for disruptive or inappropriate behavior in class such as constant talking, exceeding an acceptable noise level, sleeping in class, frequently lateness, missing classes, or

leaving early etc. If an inappropriate behavior occurs, you shall lose 10 participation points for the first infraction, 50 participation points for the second infraction, a letter grade for the third infraction, and if it occurs a 4th time, you will earn an F in the class.

**Assignments** : If homework assignments and project reports are collected, they must be received at the beginning of class on the due date. The take-home assignments made up during the class period will NOT be accepted. With the reasonable excuses, late assignments may be accepted with significantly reduced grade. Assignments should be neatly written or typed. Illegible assignments will earn zero points. You are encouraged to work collaboratively on your homework assignments, however, the work you turn in must be your own and any collaboration must be acknowledged. Students not completing the homework assigned or students late to class will NOT be permitted to request a review of exercises. If the student has completed the assignment, and he is on time for class, he may request a review of exercises he attempted, but did not complete before the beginning of the lecture for the day.

**Quizzes** : Periodic short quizzes based on assignments will be given throughout the course (usually on Fridays). The lowest quiz score will be dropped.

**Exams** : There are three in-class written exams and one comprehensive/cumulative final exam during the semester. All missed exams will be given grades of zero, unless there is a documented significant reason for missing the event. After the first two in-class exams have been graded, you will have approximately two weeks during which you may retrieve your exam from me during my office hours or scheduled appointments. This is a chance for you to ask any questions you may have about the material covered on the exam. The third exam will be returned in class. The (tentative) dates are

- Exam 1: Friday, September 21st, 2012
- Exam 2: Friday, October 19th, 2012
- Exam 3: Friday, November 16th, 2012
- Final Exam: TBA

**Make-up Policy** : Make-up tests or quizzes are administered for students that miss the test date due only to the following reasons:

- university-related activity: Graduate School Tour, university required function for a major, sports team member is required to leave with team for out-of-town game, etc,
- hospitalisation of student: the student must supply the hospital record to me indicating entry and exit date,
- death of a spouse, sibling, or parent: the student must supply the funeral notice to me,

- job interview: graduating seniors only - two per semester only.

All make-up work must be completed within seven (7) calendar days of the student's return. Otherwise, the student will earn a zero (0) for the assignment.

Make-ups will not be administered if: bus ran late, met with another instructor during testing period, car would not start, had an appointment elsewhere (i.e. doctor, dentist, etc.), clock did not go off, student wasn't ready for the test, etc.

**Tutoring** : If you are having trouble in this course, it is important that you seek help immediately. I would be more than happy to help you during office hours or during another scheduled time. You may also feel free to email me if you have questions, and I will do my best to get back to you promptly. However, I do prefer to speak with you in person since this provides immediate communication. I also encourage you to work together with other students in class. Furthermore, peer tutoring is available through the Tutoring Office in Beekey 163 (X 3-4207).

**Special Needs** : If you have already disclosed a disability to the Disability Services Office (215 Stratton Administration Building) and are seeking accommodations, please feel free to speak with me privately so that I may assist you. If you have an injury sustained during military service including PTSD or TBI, you are also eligible for accommodations under the ADA and should contact the Disability Services Office.

**Miscellaneous** :

- No extra credit is administered at any time, nor is there a curve. If the entire class earns an A, that is fine, and if the grades are evenly dispersed or seemingly below par, that also can occur.
- All cellular phones, PDAs etc. should be turned off during each class meeting or put on silent mode. They should not be used under any circumstances in class. If a student is expecting or making an urgent call, he should leave class and call the party outside of the classroom environment.

You are welcome to speak with me if you have any questions or concerns about the course requirements or expectations. Please remember that I am here to help you to learn and that I want to help you.