Dr. M. Vancliff

Introduction to Matrices and Linear Algebra

MATH 3330-001 (83243) FALL 2012

Classroom: Tues & Thur 2:00-3:20 pm in PKH 305
Contact Data: PKH 462, 817-272-3932, vancliff@uta.edu
Web: http://www.uta.edu/math/vancliff/T/F12
Office Hours: Tues & Thur 3:30-4:20 pm in PKH 462, or by appointment
Prerequisite: A, B or C in Calculus I; Calculus II strongly encouraged

Test dates: Test 1: Thurs Sept 6 (20 minutes) = 10%;
Test 2: Thurs Sept 27 (20 minutes) = 12%
Test 3: Tues Oct 23 (30 minutes) = 16%
Test 4: Tues Nov 20 (60 minutes) = 26%
Final Test: 2:00-4:30 pm on Tues Dec 11 = 36%.
All tests are comprehensive. Make a note of these dates NOW.
Bring photo ID to all tests.

Weighting: See above. Each test will be curved separately and its grade (not score) will contribute to your course grade. Good attendance & participation will help your course grade if your course grade is borderline.

Note: any student not obtaining a positive score on the Final examination will not pass this class.

Important Dates: Sept 3 = Labor Day (holiday) Mon Sept 10 = Census date
Tests (see above): Sep 6, Sept 27, Oct 23, Nov 20, Dec 11
Wed Oct 31 = official last day to drop (with W)
Nov 22-25 = Thanksgiving Holiday Tues Dec 4 = last day of class.

EXPECTED LEARNING OUTCOMES

Upon completion of Math 3330, students should be able to do the following: solve systems of linear equations without the aid of a calculator and interpret the results geometrically; give the geometric meaning of linear transformations and express them in different coordinate systems; calculate the kernel, range, determinant, eigenvectors and eigenvalues of a linear map; identify a basis of a vector space, and solve problems involving orthogonal projection and orthonormal bases. Additionally, students should be able to justify and explain their steps in problem solving; in particular, students should be able to construct correct and detailed mathematical arguments to justify their claimed solutions to problems.

You should expect the material to be more abstract than calculus; this is to prepare you for higher-order thinking needed in your future classes and career.

HOMEWORK

The homework will not be collected; it is assigned to help you learn the material and prepare for the tests. The tests will be designed to determine whether you have mastered the ideas in the homework and in the lectures. Indeed, at least half of each test will be based on homework problems. Some reading might also be assigned, due to the amount of material that we need to cover.

CALCULATORS

No calculator is allowed on any test, so it is best not to use one on the homework.
ATTENDANCE

Attendance is required. You are responsible for any and all announcements made in class and on
my website (given above). You are responsible for any and all material missed during lecture.

HELP OUTSIDE CLASS TIME

Feel free to ask me relevant questions during class, after class and in office hours. You can also
e-mail me your questions, or ask me to look over your solution to a homework problem. My office hours
are times I am planning to be in my office where you can drop by without an appointment to ask me
questions.

My web page (given above) will list the homework as the semester progresses as well as other
miscellaneous information pertinent to this course; you are advised to check it every couple of days.

UTA provides resources that include tutoring, major-based learning centers, developmental edu-
cation, advising and mentoring, personal counseling, and federally funded programs. For individu-
alized referrals, visit the reception desk at University College (Ransom Hall), or call the Maverick
Resource Hotline at 817-272-6107, or send a message to resources@uta.edu , or view the information at
www.uta.edu/resources .

Also, a list of tutors is available from the Mathematics Department Office, but note that this list is
not endorsed by the Mathematics Department.

HOW TO DO WELL IN THIS COURSE

Beyond the time required to attend each class meeting, students enrolled in this course should expect
to spend at least an additional 9 hours/week of their own time in course-related activities, including
reading required materials, completing assignments, preparing for tests, etc. The best way to guarantee
a good grade in this course is to take good lecture notes and to read them over after class, and to do
ALL the assignments on a regular basis (this is your brain exercise!) and to discuss the material with
each other. After completing any one assignment, put together a list of the ideas you learned in doing
that assignment; keep your list to help in studying for the tests. See page 4 for techniques on how to
study.

Without a good understanding of the material in this class, you will have trouble with your future
studies in mathematics, physics, statistics, computer science and engineering; this course is a stepping
stone for all other science-based classes.

CONFLICT WITH EXAMINATION DATES

Students who miss tests due to UNauthorized reasons will NOT be accommodated. In particular,
your personal commitments (e.g., job) must accommodate the test dates/times.

If you have a conflict with a test, or if you miss a test, you should contact me as soon as possible (in
person, by e-mail, or by phone (leave a message on my answering machine (NOT with the math office)
if I am not there)). If you miss any test for an authorized reason which can be verified with official
documentation (e.g., hospitalization), then accommodations will be offered (no make-up tests). Any
student not earning a positive score on the Final Test for this class will not pass this class.
DISABILITY ACCOMMODATIONS

UTA is committed to upholding the Americans with Disabilities Act (ADA). All instructors at UTA are required by law to provide reasonable accommodation to students with disabilities, so as not to discriminate on the basis of that disability. Any such student requiring an accommodation for this course must provide me with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102, and, additionally, must informally notify me as soon as possible (e.g., by e-mail) that s/he is pursuing an accommodation request.

DROP POLICY

The last day to drop this course is Wed Oct 31 at 5 pm; any student who drops the course on or before that date/time will receive a W. Students may drop or swap classes through self-service in MyMav until Aug 29. After Aug 29, students must see their academic advisor to drop a class or withdraw if they have declared a major; otherwise, they must see an advisor in the University Advising Center. Students will NOT be automatically dropped for non-attendance.

ACADEMIC INTEGRITY

All students enrolled in this course are agreeing to uphold the UTA Honor Code: “I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.” All persons involved in academic dishonesty will be disciplined in accordance with UTA’s regulations and procedures. Discipline includes suspension or expulsion from the University and a grade of FAIL in the class given to involved student(s). Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22 of the Regents’ Rules and Regulations states the following. “Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or material that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts”.

Photo-ID is REQUIRED at all tests. UTA has informed all its faculty that steps should be taken to discourage cheating on tests. As such I will uphold the following during the tests:

- all items not needed for the test should be placed on the floor by the wall;
- if you wish to leave the room during a test, you should ask permission first and turn in your test to me — only in exceptional circumstances will I let you continue the test should you return (so it is better to be 3 minutes late to the test, rather than ask to go to the restroom during the test);
- if you finish a test early but prefer to stay in the room, then you should NOT get out any work, book nor item, no matter what the subject matter is.

Remember, in any test, keep your eyes on your own work only.
E-MAIL & STUDENT FEEDBACK

UTA uses MavMail as its official means to communicate with students, so check your MavMail inbox regularly. Using this account is free. See http://www.uta.edu/oit/cs/email/mavmail.php. Information on the end-semester student feedback survey for this course will be sent to your MavMail account. UTA’s effort to gather & publish student feedback is required by state law.

DISTRACTION IN THE 21ST CENTURY!!

During all classes, cellular phones should be SWITCHED OFF and any electronic device not used for learning the class material should be out of sight. During all tests, all cellular phones and electronic devices should be switched off and with your belongings by the wall. If you NEED to use your cellular phone for an URGENT reason during class, you may leave the room to talk & return to class when you are done. If you leave class for a nonurgent reason, the students & I prefer that you do not return, & I will subtract your name from the attendance sheet. If you need to use your cellular phone for any reason during a test, then you may leave the room to talk, but you will **not be able to continue the test**.

UTA reserves the right to impose disciplinary action for any kind of infraction of UTA’s policies. Engagement in conduct which disrupts, obstructs or interferes with activities authorized by UTA will result in disciplinary action against the perpetrator(s). Such action includes leaving and/or entering the room during class.

STUDY TECHNIQUES

See the website http://www.uta.edu/math/vancliff/T/S09/1426study.pdf for a list of study techniques for calculus students; many of those study techniques apply to your studying the material in this course. Moreover, additional resources that might be helpful in studying for this class are given at my website.

HONORS CREDIT

Students wishing to earn honors credit for this course should consult my website as soon as possible. In particular, a list of acceptable projects (with deadline dates) is given at my website.

TUITION NONPAYMENT

If you are dropped from this class for non-payment of tuition, you might be able to secure an Enrollment Loan through the Bursar’s Office.

GRADE-REPLACEMENT & GRADE EXCLUSION POLICIES

These policies and deadline dates are described in detail online at http://wweb.uta.edu/ses/recordsandregistration/content/student_services/grade_exclusion.aspx & at http://wweb.uta.edu/ses/recordsandregistration/content/student_services/grade Replacement.aspx.