PRACTICAL INFORMATION

Class hours:	TR 11:00–12:30 pm
Class room:	HH 033
Instructor:	Lars Winther Christensen
Office:	MA 251
Office hours:	MR 1:30–2:30 pm, F 3:00–3:50 pm, or by appointment
E-mail:	lars.w.christensen@ttu.edu
Course homepage:	www.math.ttu.edu/~lchriste/teaching5316131.html

COURSE DESCRIPTION

Linear algebra and matrix theory are fundamental tools in mathematics and in science. This course provides an thorough introduction to the subject.

Textbook: *Matrix Analysis,* 2nd edition, by Roger A. Horn and Charles R. Johnson, Cambridge University Press (2013).

Prerequisites: An undergraduate class in linear algebra or consent of the instructor.

Expected learning outcomes: After completion of the course, the students will have a good understanding of, and operational experience with, central notions in matrix analysis.

The topics covered include

- Eigenvalues and eigenvectors; similarity
- Unitary similarity; normal matrices
- Hermitian matrices and congruences
- Perturbation of eigenvalues, Geršgorin discs
- Canonical forms
- Positive matrices

LEARNING ASSESSMENT

Graded assessment is done through homework and exams. Other assessment techniques will also be used; these include direct questioning, problems to be solved in class, and discussions during office hours. Additionally, problems will be assigned for student self-assessment.

COURSE ORGANIZATION

The plan is to cover (parts of) chapters 1–4, 6, and 8 in the textbook. Exact reading assignments are posted on the course homepage, which is updated after every class.

Exams: In-class exams take place on 10 Oct. and 21 Nov. The final exam is a 48 hour take-home exam due on 5 December at 1 pm.

Other important dates:

Last day to drop a course without penalty	12 Sep.
Last day to drop a course	28 Oct.
Thanksgiving	27 Nov.–1 Dec.
Last day to withdraw	29 Nov.

ASSIGNMENTS, GRADES, AND GRADING

Two in-class exams are given during the semester. Homework will be assigned 12 times during the semester and is due on Fridays.

Grading policy: On exams and written homework, partial credit for correct steps will be awarded even if the final answer is wrong. Full credit will be given only if the final answer and all intermediate steps are correct. A correct final answer does not *per se* guarantee any credit.

Final grade: Homework (10 assignments) and exams (3) are counted towards the final grade with weights as follows: Homework 40% (4% ea.) and exams 60% (20% ea.).

GENERAL POLICIES

Academic integrity: It is the aim of the faculty of TTU to foster a spirit of complete honesty and a high standard of integrity. Any attempt of students to present as their own any work that they have not honestly performed is regarded by faculty and administration as a serious offense and renders the offenders liable to serious consequences, possibly suspension. Please see more information on-line at www.depts.ttu.edu/studentjudicialprograms/academicinteg.php.

Civility in the classroom: You are expected to be courteous to me and your fellow students. This means that your cell-phone should be turned off during the class; you shall not chat with your friends during class, eat meals or snacks, or cause a distraction in any other way.

Officially approved trips: Students are allowed to miss class for trips officially sanctioned by TTU. The student must notify the instructor of upcoming trips and present written authorization.

Religious holy days: You are allowed to take the time to travel and observe a religious holy day. Prior notice should be given at least one week before the absence.

Students with disabilities: Any student who, because of a disability, may require special arrangements in order to meet course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's hours. Please note: instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office at 335 West Hall or 806-742-2405.