

ADVANCED LINEAR ALGEBRA AND MATRIX THEORY MAS 5145 (0001) • FALL 2017

INSTRUCTOR: Dr. Zhe Liu

Office: MSB 420

E-mail: zhe.liu@ucf.edu

Office Hours: MW 5:30 PM ~ 6:00 PM, T 11:00 AM ~12:00 PM

LECTURE: MW 6:00 PM ~ 7:20 PM, MSB 407

CREDIT HOURS: 3

PRE-REQUISITES: MAS 3106, or equivalent or C.I.

TEXTBOOK: *The linear Algebra a Beginning Graduate Student Ought to Know*, by Jonathan S. Golan, 3rd edition.

COURSE GOALS AND DESCRIPTION: This is a proof intensive course that will cover topics related to vector spaces, subspaces, linear transformations, matrices, eigenvalues and eigenvectors, Jordan forms, inner product spaces, positive-definite, self-adjoint, unitary and normal endomorphisms (operators, matrices), bilinear and quadratic forms, etc. The goal of this course is to learn more advanced topics in linear algebra and matrix theory and to train and improve mathematical thinking and writing skills.

COURSE GRADE:

- **Homework** (15 pts × (5-1) = 60 pts): There will be five homework assignments. The lowest homework grade will be dropped.
- **Exams** (60 pts × 2 = 120 pts): There will be two exams. All exam grades will count toward final course grade. There will be NO make-up exams.
- **Final Exam** (90 pts): The final exam is cumulative.
- **Projects** (30 pts): details to be announced in class.
- The TOTAL possible points of this course will be 300. Course grades will be awarded according to the following grading scale.

A: [270, 300]; B: [225~270); C: [180~225); D: [150~180); F: [0~150)

CALCULATORS: Calculators are NOT allowed.

FINANCIAL AID REQUIREMENT: All faculty are required to document students' academic activity at the beginning of each course. This academic activity must be completed by the end of the first week of classes or as soon as possible after adding the course. Failure to do so may result in a delay in the disbursement of your financial aid. Instructions on how to complete this academic activity will be given in class.

ACADEMIC INTEGRITY: UCF faculty members have a responsibility for your education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to infringements of academic integrity. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating

academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about UCF's Rules of Conduct, see <http://www.osc.sdes.ucf.edu>.

RELIGIOUS POLICY: It is the practice of the University of Central Florida to reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. A student who desires to observe a religious holy day of his or her religious faith must notify his/her instructor in writing at the beginning of the term (prior to the end of the add/drop period) to be excused from classes to observe the religious holy day. (Please note that documentation may be requested.)

DISABILITY ACCOMMODATIONS: The University of Central Florida is committed to providing reasonable accommodations for all persons with disabilities. Students who need accommodations must be registered with Student Accessibility Services, Ferrell Commons Room 185, phone (407) 823-2371, TTY/TDD only phone (407) 823-2116, before requesting accommodations from the professor.