This course is intended to emphasize the techniques and applications of linear algebra rather than the usual theorem-proof format. In particular, applications to engineering, economics, image processing, and computer science are presented. The course has an important computational component (using MATLAB) which is based on a number of programming projects.

**MATERIAL AND STRUCTURE:** The material to be covered in this course is mostly contained in Chapters 1-6 of the textbook and includes the following topics and its applications: systems of equations, matrices, vectors, orthogonality, determinants, eigenvalue problems. Some additional topics will also be included, particularly when it comes to current applications of matrix theory to engineering, image processing, and computer science. Students are expected to attend lectures and lab sessions, which will be used to explain new material, to work examples, and to answer questions. They are strongly urged to read the material in advance and to begin the homework assignments early. Interaction and participation in class are expected, and attendance to office hours is very welcome.

**TEXTBOOK:** Linear Algebra for Engineers and Scientists Using MATLAB, by K. Hardy, Pearson, 2005.

**HOMEWORK ASSIGNMENTS/QUIZZES:** There will be weekly homework assignments due on FRIDAYS at 5pm. Drop the assignments into the box under your lecture instructor's name that is located in Cardwell Hall next to room 120. Homework which is dropped in the wrong box will not be graded! Please staple all the sheets and put the assignment number and your name in the front page. Write the statement of each problem and explain all your steps.

**MATLAB PROJECTS:** There will be 10-12 MATLAB projects which will be discussed in the computer lab on Fridays. The instructions for each MATLAB project will be posted on K-State online. The lab sessions will be used to discuss the projects, provide MATLAB code necessary to do the assignments, and will also include some theoretical components. Lab projects will be due on FRIDAYS at 5pm online at K-State online.

**NO LATE HOMEWORK OR PROJECTS WILL BE ACCEPTED.**

**GROUP WORK ON ASSIGNMENTS IS NOT ALLOWED IN THIS CLASS.**
EXAMS: There will be two in-class tests during the semester and a final exam during the final exams week. Tentative dates for the in-class tests are October 2 (Friday) and November 13 (Friday). The dates for the tests and assignments may be changed by the instructor. All the changes will be announced in class.

FINAL EXAM: The final exam is scheduled on December 15 (Tuesday), 11:50 AM – 1:40 PM, CW 102.

GRADES: Homeworks are worth 20%, MATLAB projects 20%, in-class tests 30% (15% each), final exam 30%. Your final grade will be assigned as follows: 90 to 100% correspond to an A, 80 to 89.99% correspond to a B, 70 to 79.99% correspond to a C, 60 to 69.99% correspond to a D, and less than 60% correspond to an F.

MAKE UP WORK: Make-up work will be permitted to be done only when a student has legitimate conflicting obligations, such as illness or emergency or University-sponsored activities. These conflicts do not excuse the student from course responsibilities. The student is responsible for informing the instructor of any legitimate excuses and making arrangements for make-up work, if permitted, as soon as possible.

DISABILITIES: Any student with a disability who needs a classroom accommodation, access to technology or other academic assistance in this course should contact disability support services (dss@k-state.edu) and/or the instructor. Students who require assistance during an emergency evacuation should discuss their needs with their instructors and DSS. DSS serves students with a wide range of disabilities including, but not limited to, physical disabilities, sensory impairments, learning disabilities, attention deficit disorder, depression, and anxiety.

REGARDING ACADEMIC HONESTY: Kansas State University has an Honor System based on personal integrity, which is presumed to be sufficient assurance that, in academic matters, one's work is performed honestly and without unauthorized assistance. Undergraduate and graduate students, by registration, acknowledge the jurisdiction of the Honor System. The policies and procedures of the Honor System apply to all full and part-time students enrolled in undergraduate and graduate courses on-campus, off-campus, and via distance learning. The honor system website can be reached via the following URL: www.ksu.edu/honor. A component vital to the Honor System is the inclusion of the Honor Pledge which applies to all assignments, examinations, or other course work undertaken by students. The Honor Pledge is implied, whether or not it is stated: 'On my honor, as a student, I have neither given nor received unauthorized aid on this academic work'. A grade of XF can result from a breach of academic honesty. The F indicates failure in the course; the X indicates the reason is an Honor Pledge violation.

CLASSROOM CONDUCT: All student activities in the University, including this course, are governed by the Student Judicial Conduct Code as outlined in the Student Governing Association By Laws, Article VI, Section 3, number 2. Students who engage in behavior that disrupts the learning environment may be asked to leave the class.
CHANGES: The instructor reserves the right to modify the contents in this description if conditions arise during the semester that make such changes desirable. Such changes will be announced in class; it is your responsibility to keep abreast of such changes.