

MATH 3319 Differential Equations and Linear Algebra

Spring 2015

Section 002: PKH 113, 9:30-10:50 am, Tues. Thur.

**Instructor:** Dr. Karl Backs

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**Office Hours:** Mon. Fri. 10-10:50 am; Wed. 12 – 12:50 pm; 11 am – 12 pm Tues. Thur.; or by appointment.

**Textbook:** Differential Equations and Linear Algebra, Third Edition, by Stephen Goode and Scott Annin.

**Course Prerequisites:** C or better in MATH 2326 or concurrent enrollment.

**Learning outcomes:** Upon completion of Math 3319, the students should have a solid knowledge of the material including (but not limited to) the topics outlined below:

1. First Order Differential Equations (1.1-1.4, 1.6, 1.8).
2. Matrices and Systems of Linear Equations (2.1-2.6).
3. Determinants (3.1-3.3).
4. Vector Spaces (4.1-4.6).
5. Linear Transformations (5.1, 5.3, 5.6).
6. Linear Differential Equations of Order  $n$  (6.1-6.3, 6.5).
7. Systems of Differential Equations (7.1-7.4, 7.9, 7.10).
8. The Laplace Transform (8.1, 8.2, 8.4).

**Grading Scale:** A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: 0-59

**Grade components:**

1. Midterms (2) | 50%
2. Final examination | 35%

### 3. Homework and quizzes | 15%.

Homework assignments will NOT be collected, thus NOT be graded. However, you are strongly encouraged to work on these problems, since similar ones may appear on your quizzes and exams. The grades of the quizzes will count 15% toward your final grade.

**Attendance Policy:** To succeed in this class it is strongly recommended that you attend every class. A missed exam cannot be made up.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://web.uta.edu/aao/fao/>). Any student who drops this course on or before Wednesday, October 30 at 4 PM will receive a W.

**Student Support Services Available:** The University of Texas at Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. These resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals to resources for any reason, students may contact the Maverick Resource Hotline at 817-272-6107 or visit [www.uta.edu/resources](http://www.uta.edu/resources) for more information.

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 93112 - The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens. As a faculty member, I am required by law to provide "reasonable accommodation" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.

If you require an accommodation based on disability, I would like to meet with you in the privacy of my office, during the first week of the semester, to make sure you are appropriately accommodated.

**Academic Integrity:** Students enrolled in this course are expected to adhere to the UT Arlington 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.*

UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System Regents' Rule 50101, x2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

**Grade Replacement and Grade Exclusion Policies:** These policies are described in detail in the University catalog and can also be found online at [http://web.uta.edu/catalog/content/general/academic\\_regulations.aspx#10](http://web.uta.edu/catalog/content/general/academic_regulations.aspx#10) (scroll about half way down the page).

**Student Disruption:** The University reserves the right to impose disciplinary action for an infraction of University policies. For example, engagement in conduct, alone or with others, intended to obstruct, disrupt, or interfere with, or which in fact obstructs, disrupts, or interferes with, any function or activity sponsored, authorized by or participated in by the University.

**Drop for Non-Payment of Tuition:** If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as "lecture", "seminar", or "laboratory" shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there

shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.