Differential Equations; MATH 2610, Sec. 01, Spring 2016
MWF 10:10–11:00, Stevenson Center 1320

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Office Hours: MWF 11:00-12:00

Course Description, Prerequisites and Syllabus

The course is an introduction to the theory and methods of ordinary differential equations intended for mathematics and advanced science majors. We will cover 1st and 2nd order differential equations, applications, matrix methods for linear systems, stability theory of autonomous systems and fundamental existence and uniqueness theorems. These topics will encompass most of the material from Chapters 1,2,4,9,12, with additional selections from other chapters. The course assumes a working knowledge of Multivariate Calculus, and Algebra of Matrices. Most of the following sections from the textbook will be covered:

1.2–1.4, 2.2–2.4, 3.2, 4.1–4.7, 5.1–5.3, 9.1–9.8, 12.1–12.7.

Grading Policy

Homework

Homework will be assigned and posted on the VU Blackboard, every Friday, except Fri March 11, and Friday April 15 and 22. The homework is due in writing a week later. Homework assignments will consists of a set of problems out of the textbook, mostly on the material of the preceding week or so. Of these an average of 4-5 will be graded in detail, and the remaining ones will be checked lightly. You won’t know which ones will be graded in detail. Each homework will be graded in 100’s (e.g., the maximum score is 100 points) and recorded. You will receive 40 points for doing all the problems and 60 points will be distributed according to the performance on the problems graded in detail. Your homework scores, minus the lowest 2, will be averaged and will constitute 20% of your final grade.

The assignments will be graded by Ms. Sarah Leff. Please contact her for possible grading discrepancies and/or disagreements (sarah.a.leff@vanderbilt.edu). Please contact me if disagreements persist.

Midterm Exams

The course will have 4 exams on the following dates:

Exam 1: Fri Feb 05
Exam 2: Fri Mar 04
Exam 3: Wed Mar 30
Exam 4: Mon Apr 18
There will be no make-up exams, unless requested by a medical doctor or appropriate VU authority. There will be no final exam.

Tests will contain a combination of problems and theoretical questions, as well as some short proofs.

Each exam will be graded in 100’s (e.g., the maximum score is 100 points) and it will constitute 20% of your final score.

Final Grade

The homework average (the lowest two homework scores will be removed), and the exams scores will be added up and averaged (rounded to the largest integer if needed), to come up with your final score. The final grade will be assigned according to the following table.

\[
\begin{align*}
97 - 100 & \rightarrow A^+, \\
93 - 96 & \rightarrow A, \\
90 - 92 & \rightarrow A^-, \\
87 - 89 & \rightarrow B^+, \\
83 - 86 & \rightarrow B, \\
80 - 82 & \rightarrow B^-, \\
77 - 79 & \rightarrow C^+, \\
73 - 76 & \rightarrow C, \\
70 - 72 & \rightarrow C^-, \\
67 - 69 & \rightarrow D^+, \\
63 - 66 & \rightarrow D, \\
60 - 62 & \rightarrow D^-, \\
0 - 59 & \rightarrow F.
\end{align*}
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Course Policies

**Honor Code:** All work submitted for credit must be the student own and is subject to the provisions of the Vanderbilt Honor Code. Details can be found at the Honor Council web site: [http://studentprgs.vanderbilt.edu/HonorCouncil](http://studentprgs.vanderbilt.edu/HonorCouncil)

**Electronic Equipment:** Calculators will not be used on the tests. Students are not allowed to use electronic equipment such as cell phones, music players, or computers during class.

**Classroom Recording Policy:** The use of technologies for audio and video recording of lectures and other classroom activities is allowed only with the express permission of the instructor, and if granted, is restricted to personal use only. Personal use is defined as use by an individual student for the purpose of studying or completing course assignments. When students have permission for personal use of recordings, they must still obtain written permission from the instructor to share recordings with others.

**Attendance:** The student who misses a class meeting is responsible for any assignments and/or announcements made. Office hours will not be utilized to re-teach material presented in class. The stated attendance policy of the College of Arts and Science applies in this course.