**Course Goals:** To learn the concepts and techniques of ordinary differential equations and linear algebra. Topics include qualitative methods, linear and nonlinear ODEs, and first and second order systems.

**Text:** *Differential Equations and Linear Algebra*, by Farlow, Hall, McDill, & West (2nd edition). (Please note that the exercises are different from the first edition.)

**Course web page:** [http://amath.colorado.edu/content/appm-2360-introduction-differential-equations-linear-algebra-spring-2015](http://amath.colorado.edu/content/appm-2360-introduction-differential-equations-linear-algebra-spring-2015). You will find useful information on the course web page, such as homework assignments and solutions, practice exams with solutions, and where to go for deeper understanding of course material (such as office hours and tutoring options).

**Recitations:** Recitations meet for 1 hour on Thursdays. The purpose of the recitation is only partly to help you with the homework and labs. More importantly, the recitation is intended to further clarify APPM 2360 concepts. **There are no recitations the day after an exam.**

**Office Hours:** Instructors will be in their offices during their posted office hours. TA office hours will normally be in STAD 262. During the weeks that the projects are due, they will hold office hours in ECCR 143.

**Grade determination:** There are a total of 1000 points for the course. The points are distributed over homework assignments (150 points), three projects (50 points each), three unit exams (150 points each), and a cumulative final exam (250 points). Note that your grades for exams, homeworks, projects, and final will be available on desire2learn.

You must earn an average of 55% or better on your exams (midterms and final) in order to earn a D- or better in the course. After the final exam, if your exam scores average to less than 55%, you will earn an F in the course regardless of your homework and quiz scores.

After the final exam, if your exam scores average to 55% or better, then your homework and quiz points will be factored in to determine your course grade and the approximate course grade lines will be calculated based on the following:

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>Minimum Required Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>88% (880 pts)</td>
</tr>
<tr>
<td>B-</td>
<td>77% (770 pts)</td>
</tr>
<tr>
<td>C-</td>
<td>65% (650 pts)</td>
</tr>
<tr>
<td>D-</td>
<td>55% (550 pts)</td>
</tr>
</tbody>
</table>

**Homework:** To do well in this course, attend the lectures and do (and understand) the homework. Ask questions. Homework is due in recitation on Thursdays, except during exam weeks, when they are due the following Monday at 5pm by your TA. Late homework will not be accepted or graded; you must show all your work in your homework. **Homework problems and due dates are available on the course webpage (under the “schedule” tab).** The problems listed are those that are to be turned in for credit; however, it is your responsibility to do as many problems as is necessary to understand the material and know how to do the graded problems.

**Projects:** You will turn in three projects for APPM 2360. Projects and due dates will be posted on the course web site and you will submit a pdf copy on desire2learn by 5pm on the day it is due. You may work in groups of 3 people or fewer and you can work with students in any section of this course. If you work in a group, only one pdf needs to be submitted for the whole group. All group members will receive the same grade; the instructors will not arbitrate on internal group disputes. Late projects will not be
accepted or graded. In the projects, you will investigate certain topics in differential equations in more detail, perform some of your analysis in a computer software package (Mathematica, Matlab, or MVT), and turn in a write-up of your results. **Pay special attention to your writeup and the “good” and “bad” examples on the website.** The majority of lost points are due to directions being ignored.

**APPM 2460** This is a one-credit course [http://amath.colorado.edu/courses/2460](http://amath.colorado.edu/courses/2460) specifically designed to help you with the projects and use of mathematical software. While not required, you are encouraged to sign up for APPM 2460. Please direct questions about APPM 2460 to the coordinators, Kathleen Finlinson (Kathleen.Finlinson@colorado.edu) or Wayne Mitchell (Wayne.Mitchell@colorado.edu).

**Exams:** There will be three exams and a comprehensive final. For all exams and the final, you are allowed to bring in one standard 8.5” × 11” sheet of notes. The exams will be given on Wednesdays (Feb. 11, March 11, and Apr. 15) from 7:00-8:30 PM, with no exceptions. The final is May. 6, from 10:30 AM–1:00 PM. There will be **no** make-up exams or early exams. If you are sick during an exam, you must bring a note from your doctor or the Wardenburg Health Center verifying your illness. Your course grade will then be determined by the rest of your course work. **If you have any unavoidable schedule conflicts with the exams, including three or more final exams on the same day, you must bring this to the attention of your professor by Mar. 4.**

**Bluebooks:** Each student is required to purchase **five** 8.5” × 11” bluebooks and give them to the TA by the second recitation (Jan. 22). You will be awarded 5 bonus homework points for turning in your bluebooks on time. The books will be distributed at the exams, so please do not write **anything** (not even your name) on the books.

**Re-grades:** If an exam or lab has been incorrectly graded, you must submit a **legibly** written request for a re-grade within **one week** of the day the exam or lab was returned in class. The request must specify why there was an error in the grading; requests such as “please regrade question 3”, “too many points were deducted” and “I feel I deserved more points” will not be accepted. Exam re-grades should be directed to your instructor; all lab re-grades should be directed to the lab coordinator: Kathleen Finlinson (Kathleen.Finlinson@colorado.edu) or Wayne Mitchell (Wayne.Mitchell@colorado.edu).

**Dropping the course:** Getting advice from the Dean’s office is recommended before dropping any course. After Mar. 20, dropping the course is possible only with a petition approved by the Dean’s office.

**Academic Honesty:** All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at [http://www.colorado.edu/policies/honor.html](http://www.colorado.edu/policies/honor.html) and at [http://honorcode.colorado.edu](http://honorcode.colorado.edu). Additionally, students in the College of Engineering are held to the College of Engineering’s Academic Honesty Advising Guidelines [http://www.colorado.edu/engineering/academics/policies/honesty](http://www.colorado.edu/engineering/academics/policies/honesty). Violations will result in an overall grade of F in this course and further sanctions from the university. Or, to put it more concretely, we encourage you to work in groups, but all work turned in must be your own.

**Disability Services:** If you qualify for accommodations because of a disability, please submit to your instructor a letter from Disability Services no later than Feb. 27, so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303-492-8671 or [http://disabilityservices.colorado.edu/](http://disabilityservices.colorado.edu/) or by e-mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see Temporary Medical Conditions: Injuries, Surgeries, and Illnesses guidelines under Quick Links at Disability Services website and discuss your needs with your instructor.

**Religious Observances** Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Please raise any issues with your instructor at least two weeks in advance of any needed accommodation. See full details at [http://www.colorado.edu/policies/fac_relig.html](http://www.colorado.edu/policies/fac_relig.html)

**Classroom Behavior** Laptops and tablets may be used for taking notes, as long as they are not used in a way that distracts other students (or yourself!). All electronic devices should of course be set to quiet
mode. Please do not text/websurf/play games during class. To minimize disruptions, please arrive on time, do not leave early, and stay quiet unless you have a question or a comment. Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See policies at [http://www.colorado.edu/policies/classbehavior.html](http://www.colorado.edu/policies/classbehavior.html) and at [http://www.colorado.edu/studentaffairs/studentconduct/](http://www.colorado.edu/studentaffairs/studentconduct/).

**Discrimination and Harassment** The University of Colorado Boulder (CU-Boulder) is committed to maintaining a positive learning, working, and living environment. The University of Colorado does not discriminate on the basis of race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status in admission and access to, and treatment and employment in, its educational programs and activities. (Regent Law, Article 10, amended 11/8/2001). CU-Boulder will not tolerate acts of discrimination or harassment based upon Protected Classes or related retaliation against or by any employee or student. For purposes of this CU-Boulder policy, "Protected Classes" refers to race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, or veteran status. Individuals who believe they have been discriminated against should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at [http://hr.colorado.edu/dh/](http://hr.colorado.edu/dh/)