Here you find some general information about the M 331 course pertaining to all sections. Note that each section has their own exams, homework, and grading policies. Make sure to consult the course web page of your section for relevant information regarding your class and talk to your instructor if you have any questions.

**Course Chair**
Franz Pedit, pedit@math.umass.edu, LGRT 1542, Tu 3:00-5:00 & by appointment.

**Website** people.math.umass.edu/~franz

**Text**

**Prerequisite**
Calculus I and II, some Linear Algebra, some basic Physics.

**TAs**
There are 3 course wide TAs holding daily office hours/help sessions/discussions in the late afternoon. Make ample use of this opportunity and consult a TA if you have any questions regarding the material in your class.

<table>
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<tr>
<th>Kostis Gourgoulias</th>
<th>Jinchao Feng</th>
<th>Jie Wang</th>
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<tbody>
<tr>
<td>Office: LGRT 1423C</td>
<td>Office: LGRT 1435L</td>
<td>Office: LGRT 1423M</td>
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<td>M 16:00-17:30 LGRT 171</td>
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<td>Tu 17:30-19:00 LGRT 147</td>
<td>Th 17:00-18:00 LGRT 171</td>
<td>F 16:00-18:00 LGRT 177</td>
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**Drop, Withdrawal, and Incomplete**
The last day to drop/add with no record is Monday, September 21. The last day to drop with a W is Thursday, October 22.

An incomplete is possible only if all of the following apply: (1) you have a compelling personal reason, e.g., serious illness; (2) your work so far would receive a passing grade; and (3) there is a good chance you will complete the course with a passing grade within the allotted time. Thus, expecting to fail the class is no reason to ask for an incomplete.

**Sample Topics List**
Different sections may deviate somewhat from each other depending on the personal tastes and interests of the instructor. Consult your section's syllabus for details regarding your class.

- **Week 1** How do ODEs arise, modeling, examples of ODEs from applications: Ch. 1.1, 1.2, 1.3
- **Week 2** Solving ODEs, linear 1st order ODEs, discussion of existence and uniqueness: Ch. 1.4, 1.5, 1.7
- **Week 3** 2nd order linear ODE, characteristic equation: Ch. 2.1, 2.2, 2.5
- **Week 4** Harmonic oscillator: Ch. 2.4, 2.6
- **Week 5** Inhomogeneous linear ODEs, undetermined coefficients, variation of constants, : Ch. 2.7, 2.10
- **Week 6** Forced oscillation, electric circuits, resonance: Ch. 2.8, 2.9
- **Week 7** Higher order ODEs, elasticity examples: Ch. 3.1, 3.2, 3.3
- **Week 8** Laplace transforms: Ch. 6.1, 6.2, 6.3
- **Week 9** Laplace transforms; Reduction of order, systems of ODEs: : Ch. 6.4, 6.5; Ch. 4.1, 4.2
- **Week 10** Linear 2-dim systems: Ch. 4.3, 4.4
- **Week 11** Non-linear 2-dim systems, predator-prey models, attractors: 4.5, 4.6
- **Week 12** Power series solutions: Ch. 5
- **Week 13** Wrapping things up and outlook to PDEs