MATH 3221

Ralph Saxton

University of New Orleans

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Course Information for Fall 2015
MATH 3221 - Methods in Differential Equations

Class: Science Building 2049, TTh 12:30pm – 1:45pm.

Professor: Ralph Saxton

Office location and office hours: Math 230 or Math Tutor Center, Tue./Thurs. 7-8pm, Wed. 2-6pm.

Phone number: 504-280-6130

Email address: rsaxton@uno.edu


Important – WebAssign is required and will be used throughout the course.

A package containing both the text and WebAssign has been arranged to be sold by the UNO bookstore at a discount over purchasing the text on Amazon and buying WebAssign access separately. It has a loose-leaf binding and ISBN: 9781285890951.

A quick start guide is at:
Your class key is 4433 2286 and UNO’s institution code is uno.

Moodle: You can access Moodle at: https://uno.mrooms3.net/login/index.php
Items of interest for the class (this syllabus, etc.) may be posted on Moodle.

Student learning outcomes:
The object of the course is for students to become proficient in intermediate techniques for solving first order systems and second order ODE’s. This is a prerequisite for understanding models from physics, engineering and other scientific disciplines, as well as being necessary to understand partial differential equations and numerical methods of solution. On completion of the course, students should be able to solve linear first order systems of differential equations, second order variable coefficient equations, and be able to apply Fourier transform techniques to linear partial differential equations.

The portions of the text to be covered include Sections 6.1–6.4, 8.1-8.4, 11.1-11.5, 12.3-12.5. Further material may be added if time permits.

Course prerequisites - Math 2221 and 2115 or 2134 with a grade of C or better.

Grading – There will be homework, three quizzes, two midterm tests and a final exam. The quizzes each count for 4% of the total grade, tests for 20% and the final exam for 35%. A further 13% of the grade will come from homework assignments. The overall grading scale is A: 90; B: 80-89; C: 70-79; D: 60-69; F: 59--; but these cutoff percentages may be revised downward at the discretion of the lecturer.
**Attendance** – Having three or fewer recorded absences will result in a 5% bonus towards the final grade, but leaving class early may forfeiture the bonus.

**Other** – All tests and quizzes are closed book - no calculators, smartphones or similar devices are allowed. The final is cumulative.

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday (Sunday for homework)</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>8/17-8/21</td>
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<td>6.1</td>
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<td>Week 2</td>
<td>8/24-8/28</td>
<td>6.2</td>
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<td>6.3</td>
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<tr>
<td>Week 3</td>
<td>8/31-9/04</td>
<td>6.3</td>
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<td>6.4</td>
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<td>Week 4</td>
<td>9/07-9/11</td>
<td>6.4</td>
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<td>8.1/Quiz 1 (6.1 - 6.3)</td>
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<tr>
<td>Week 5</td>
<td>9/14-9/18</td>
<td>8.1</td>
<td></td>
<td>Review</td>
<td>Ch 6 homework</td>
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<tr>
<td>Week 6</td>
<td>9/21-9/25</td>
<td>Test 1 (6.1 - 8.1)</td>
<td>8.2</td>
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<td>Week 7</td>
<td>9/28-10/02</td>
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<td>8.3</td>
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<td>Week 8</td>
<td>10/05 – 10/09</td>
<td>8.3</td>
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<td>8.4/Quiz 2 (8.2 - 8.3)</td>
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<tr>
<td>Week 9</td>
<td>10/12 – 10/16</td>
<td>8.4</td>
<td>Final drop date</td>
<td>Mid-semester Break</td>
<td>Mid-semester Break/Ch 8 homework</td>
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<tr>
<td>Week 10</td>
<td>10/19-10/23</td>
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<td>11.1</td>
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<td>Week 11</td>
<td>10/26-10/30</td>
<td>11.1</td>
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<td>11.2</td>
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<td>Week 12</td>
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<td>11.2</td>
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<td>11.3/Quiz 3 (11.1 - 11.2)</td>
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<td>Week 13</td>
<td>11/09 – 11/13</td>
<td>11.4</td>
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<td>Week 14</td>
<td>11/16 – 11/20</td>
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<td>12.3</td>
<td>Ch 11 homework</td>
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<tr>
<td>Week 15</td>
<td>11/23 – 11/27</td>
<td>12.4</td>
<td>Thanksgiving Holiday</td>
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<tr>
<td>Week 16</td>
<td>11/30 – 12/04</td>
<td>12.5</td>
<td>Review for Final Exam</td>
<td>Ch 12 homework</td>
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<tr>
<td>Finals Week</td>
<td>Final exam</td>
<td>Monday 12/07 10am - 1pm</td>
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Tutoring – A free tutoring service is available in the Math Tutor Center on the ground floor of the mathematics building. I will be there at times (to be announced).

Student Learning Outcomes - The object of the course is for students to become proficient in intermediate techniques for solving first order systems and second order ODE’s. This is a prerequisite for understanding models from physics, engineering and other scientific disciplines, as well as being necessary to understand partial differential equations and numerical methods of solution. On completion of the course, students should be able to solve linear first order systems of differential equations, second order variable coefficient equations, and be able to apply Fourier transform techniques to linear partial differential equations.

Expectations of students - Students are expected to study the notes and textbook routinely and look ahead at the relevant section from the textbook before it is covered in the lecture. Students are also expected to arrive on time, remain for the full class session, conduct themselves in a respectful manner to other students and the instructor and not use cell phones during class.

Academic Integrity - Integrity of scholarship is essential for any academic community. The University expects that both faculty and students to honor this principle and so protect the worth of University intellectual work. For students, this means that all academic work must be done by the individual to whom it is assigned, without unauthorized aid of any kind. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the Student Code of Conduct for further information. The Code is available online at http://www.studentaffairs.uno.edu

Student Conduct - The University of New Orleans (UNO) is a multicultural community composed of diverse students, faculty and staff. UNO will not tolerate discrimination or harassment of any person or group of persons based on race, color, religion, sex, disability, national origin, age, sexual orientation, marital or veteran status or any other status protected by law. Each member of the university is held accountable to this standard, which is strongly reflected in this code.

Accommodations for Students with Disabilities - It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For more information, please go to http://www.ods.uno.edu.

Important Dates*

Last day to adjust schedule w/out fee ...........................08/18/2015
Semester Classes Begin .................................................08/19/2015
Last day to adjust schedule w/fee, or withdraw with 100% refund ...........................08/25/2015
Last day to apply for December commencement 09/25/2015
Final day to drop a course or resign ..............................10/14/2015
Mid-semester examinations .................................10/05-10/09/2015
Final examinations ................................................12/07-12/11/2015
**Commencement** ............................................................... 12/18/2015

*Note: check Registrar’s website for Saturday and A/B sessions, and for items not listed here: http://www.registrar.uno.edu*

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**Fall Semester Holidays**

- Labor Day ................................................................. 09/07/2015
- Mid-semester break ............................................. 10/15-10/16/2015
- Thanksgiving ......................................................... 11/26-11/27/2015

**Withdrawal Policy – Undergraduate only**

Students are responsible for initiating action to resign from the University (withdraw from all courses) or from a course on or before dates indicated in the current Important dates calendar. Students who fail to resign by the published final date for such action will be retained on the class rolls even though they may be absent for the remainder of the semester and be graded as if they were in attendance. Failure to attend classes does not constitute a resignation. Check the dates on the Registrar’s website, http://www.registrar.uno.edu. Please consult The Bulletin for charges associated with dropping and adding courses.

**Incomplete Policy – Undergraduate only**

The grade of I means incomplete and is given for work of passing quality but which, because of circumstances beyond the student’s control, is not complete. The issuance of the grade of I is at the discretion of the faculty member teaching the course. For all graduate and undergraduate students, a grade of I becomes a grade of F if it is not converted before the deadline for adding courses for credit (as printed in the Important Dates Calendar) of the next regular semester including summer semester.

**Repeat Policy**

When a student is permitted to repeat a course for credit, the last grade earned shall be the one which determines course acceptability for degree credit. A student who has earned a C or better in a course may not repeat that course unless, (1) the catalog description indicates that the course may be repeated for credit (as printed in the Important Dates Calendar) of the next regular semester including summer semester.

**Graduate Policies**

Graduate policies often vary from undergraduate policies. To view the applicable policies for graduate students, see the Graduate Student Handbook: http://www.uno.edu/grad/documents/GraduateStudentHandbook2014.pdf

**Academic Dishonesty Policy**


**Safety Awareness Facts and Education**

Title IX makes it clear that violence and harassment based on sex and gender is a Civil Rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources here: http://www.uno.edu/student-affairs-enrollment-management/

UNO Counseling Services and UNO Cares
UNO offers care and support for students in any type of distress. Counseling Services assist students in addressing mental health concerns through assessment, short-term counseling, and career testing and counseling. Find out more at http://www.uno.edu/counseling-services/. First-year students often have unique concerns, and UNO Cares is designed to address those students succeed. Contact UNO Cares through http://www.uno.edu/fye/uno-cares.aspx.

**Emergency Procedures**
Diversity at UNO

As the most diverse public university in the state, UNO maintains a Diversity Affairs division to support the university’s efforts towards creating an environment of healthy respect, tolerance, and appreciation for the people from all walks of life, and the expression of intellectual point of view and personal lifestyle. The Office of Diversity Affairs promotes these values through a wide range of programming and activities. [http://diversity.uno.edu/index.cfm](http://diversity.uno.edu/index.cfm)

Learning and Support Services

Help is within reach in the form of learning support services, including tutoring in writing and math and other supplemental instruction. Visit the Learning Resource Center in LA 334, or learn more at [http://www.uno.edu/lrc/](http://www.uno.edu/lrc/).

Affirmative Action and Equal Opportunity

UNO is an equal opportunity employer. The Human Resource Management department has more information on UNO’s compliance with federal and state regulations regarding EEOC in its Policies and Resources website: [http://www.uno.edu/human-resource-management/policies.aspx](http://www.uno.edu/human-resource-management/policies.aspx)