MATH 274  
Differential Equations  
Summer 2013  

General Information  
Instructor: Dr. Waleed Al-Rawashdeh  
Location: Office: Museum 110  
Phone: (406)496-4407 (no voicemail)  
Email: walrawashdeh@mtech.edu  

Office hours: MTWR: 12pm – 1pm. (others by appointment).  

Course Materials  


Material: We will cover most of the first six chapters of the text except chapter four, with additional topics as time allows.  

Description: A study of first order differential equations, second and higher linear differential equations, power series methods, Laplace transform, and numerical techniques, with various applications.  

Course Objectives: Upon successful completion of this course, the students will:  
- Learn to organize and classify various types of ordinary differential equations.  
- Get use to think about and work with functions as “variables”.  
- Learn to solve certain types of differential equations analytically, with an emphasis on first order differential equations and higher order linear differential equations.  
- Learn how to use differential equations to model problems arising in engineering physics, and other applied areas.  
- Learn few numerical methods for studying and solving differential equations.  

Class Policies:  
The course requirements are listed below. They are designed to assist you in understanding and mastering the course material. You are expected to spend several hours each day outside of class reading, studying and solving problems. If you have difficulties following the class, be sure to ask questions in class or during office hours. If you are unable to come to my office hours to ask questions, I encourage you to make an appointment to see me at other times.
**Attendance and Class Participation:** Attendance is required and will be taken daily. You are expected to be on-time and remain the entire class time. It is your responsibility to find out what was discussed in a missed class. There are no points for attendance. However, if your final grade is on the borderline and you have been absent three or more times during the semester you will be given the lower letter grade. In addition to merely attending class, you are expected to participate in discussions, question-and-answer sessions and other classroom activities.

**Behavior:** Rudeness will not be tolerated. Rude behavior, including but not limited to arriving late, leaving early, and talking out of turn, will result in one warning. If the behavior continuous, 5 points per infraction will be subtracted from the offender’s point total.

**Homework:** Suggested homework problems will be given in class at the beginning of each section. Homework will not be collected – however students are strongly encouraged to complete all assignments. Completing the homework assignment is the most important activity in the course, as they will help you to prepare for the exams. Before attempting the homework problems read the notes, textbook, and study the examples in the textbook. This reinforces the material presented in class. **There is a big difference between watching an instructor do a problem and doing one yourself, the best way to learn mathematics is to do mathematics.** If you work with other students when doing homework problems, be an active participant.

**Quizzes:** There will be five in-class quizzes, some in class and others take home quizzes. Quizzes will be given according to the instructor’s discretion throughout the semester. **No make up quizzes will be given under any circumstances.** Dropping the lowest quiz will cover absentee situations.

**Exams:** There will be a mid-term exam and a comprehensive final exam. The dates in the syllabus are tentative and subject to change. If you know that you are going to miss class on an exam day for school business please arrange to take the exam in advance. Makeup exams will be available for two class days after the missed exam. If the missed exam is not made up by that time, you will receive a zero on the missed exam. Documentation must be provided to receive a makeup exam. The exams dates are:

- Final Exam: Friday, June 21, 2013.

**Grade Distribution:**

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<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>Mid-term Exam</td>
<td>150</td>
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<tr>
<td>Quizzes</td>
<td>100</td>
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<tr>
<td>Final Exam</td>
<td>150</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>400</strong></td>
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**Grading Scale:**

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<tr>
<th></th>
<th>Cutoff Average (%)</th>
<th>Cutoff Average (%)</th>
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<tbody>
<tr>
<td>A</td>
<td>93</td>
<td>B-</td>
<td>80</td>
</tr>
<tr>
<td>A-</td>
<td>90</td>
<td>C+</td>
<td>77</td>
</tr>
<tr>
<td>B+</td>
<td>87</td>
<td>C</td>
<td>73</td>
</tr>
<tr>
<td>B</td>
<td>83</td>
<td>C-</td>
<td>70</td>
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**Cell Phone Policy:** No cell phones on desks at any time. Put phone on vibrate.

**Final Word:** Mathematics is not a spectator sport. What you learn from this course and your final grade depends mainly on the amount of work you put forth. Daily contact with the material through the homework problem and review of notes taken during lectures are extremely important. The best way to prepare for the exams is by reviewing the relevant material and **working problems from scratch.** Rather than reading problems’ solutions, work them on your own first. Then compare your answer to the solution in your book or notes. **There will be no extra credit assignments.**

**Amendments:** Any changes to this syllabus will be announced in class, and an updated version will be posted on Moodle.