

# MAP 2302 : Differential Equations

## Summer 2010 – Full Term

---

### Course Description

This course is an introduction to the methods and applications of ordinary differential equations. Topics to be covered include first order differential equations and applications, higher-order linear differential equations with applications, Laplace transforms, and an introduction to numerical methods.

### Credit

3 credit hours are awarded for completion with a grade of C or better.

### Prerequisite

Minimum grade of C in MAC 2312.

### Meeting Location & Times

Building 1, Room 235

Tuesday & Thursday 4:45 pm – 6:20 pm

### Professor

Name: Richard Russell

Office: West Campus, Building 5, room 133

Phone: 407-582-1049

E-mail: RRUSSELL16@valenciacc.edu

Website: Accessible through WebCT

### Office Hours

Monday 3:00 pm – 4:30 pm

Tuesday 3:00 pm – 6:00 pm

Wednesday 3:00 pm – 4:30 pm

Thursday 3:00 pm – 6:00 pm

Friday 12:00 pm – 2:00 pm

<b>Text</b>	<ul style="list-style-type: none"> <li>• <i>A First Course in Differential Equations with Modeling Applications, 9th edition</i>, by Dennis G. Zill</li> </ul>
<b>Calculator</b>	<ul style="list-style-type: none"> <li>• A graphing calculator is suggested for this course.</li> <li>• You will be allowed to use your calculator for exams.</li> <li>• Links to demonstration/how-to videos for the TI-83/TI-84 will be posted on the class web site.</li> </ul>
<b>Math Support Center</b>	<ul style="list-style-type: none"> <li>• The West Campus Math Center is temporarily located in Building 4, Room 236 during this semester.</li> <li>• Tutoring, videotapes, software, and solutions manuals pertinent to your studies are available for in-lab use.</li> <li>• This is a great resource that is free of charge to you!</li> <li>• All other Valencia campuses have a tutoring or resource center available for you also. For more information, visit the tutoring center website at: <a href="http://www.valenciacc.edu/tutoring/">http://www.valenciacc.edu/tutoring/</a></li> </ul>

<p><b>Grade Distribution</b></p>	<p>Your grade will be based on 700 total points and consist of the following components:</p> <ul style="list-style-type: none"> <li>• 4 midterm exams @ 100 points each</li> <li>• 6 problem sets @ 25 points each</li> <li>• 1 comprehensive final exam @ 150 points</li> </ul> <p>Your grade will be assigned according to the standard 10 percent scale:</p> <ul style="list-style-type: none"> <li>• 630-700 Points (90%-100%) – A</li> <li>• 560-629 Points (80% - 89%) – B</li> <li>• 490-559 Points (70% - 79%) – C</li> <li>• 420-489 Points (60% - 69%) – D</li> <li>• &lt; 420 Points (Less than 60%) – F</li> </ul>
<p><b>Homework &amp; Problem Sets</b></p>	<ul style="list-style-type: none"> <li>• Completion of the assigned homework problems is a vital part of being successful in any mathematics course. This is especially true for higher-level courses such as D.E. It is your responsibility to keep up with the homework and to obtain help during my office hours or in the Math Center when needed.</li> <li>• The homework problems from the book are designed to strengthen your understanding of the material and to prepare you for the midterm exams. A group of homework problems will be assigned from each section of the textbook covered during the semester. While these problems will not be collected or graded, you may be asked to show them to me at certain points during the semester.</li> <li>• You will complete 6 take-home problem sets based on the concepts you have practiced in the homework assignments. No problem set will be accepted after its due date – no exceptions!</li> <li>• Many students of mathematics find it extremely helpful to form study groups with their classmates. (I strongly recommend this practice.)</li> </ul>
<p><b>Exams</b></p>	<ul style="list-style-type: none"> <li>• There will be four midterm exams that are all mandatory for each student. Exam dates will be announced at least one week in advance.</li> <li>• You should schedule any activities or events outside of class time so that you do not miss any exams. However, if you know ahead of time that you will be absent on the date of a midterm exam, you may contact me at least four days ahead of the exam to discuss the possibility of taking the exam early.</li> <li>• If you miss an exam for any reason you will receive a “0” as your score for that exam.</li> <li>• If your score on the final exam is higher than your lowest midterm exam score, the final exam score will be used as a replacement score for the lowest exam. This includes one and only one missed exam.</li> <li>• You must take the final exam in order to pass this course. It will be given during the last scheduled class of the semester – Tuesday, August 3<sup>rd</sup>.</li> </ul>

<p><b>Attendance/ Withdrawal</b></p>	<ul style="list-style-type: none"> <li>• Attendance is mandatory in this class.</li> <li>• You are responsible for any information and/or assignments given during class, whether you are present or not.</li> <li>• If you plan on withdrawing from the course <b>YOU MUST DO SO YOURSELF</b>. It is <b>your</b> responsibility to complete the withdrawal process through Atlas if you do not plan to attend for the rest of the semester.</li> <li>• The deadline for withdrawing from class with a grade of W is July 2<sup>nd</sup>. After this date you will receive a grade of A, B, C, D, or F. The grades of WP and WF are no longer issued.</li> <li>• It is Valencia's policy that any student who does not withdraw from a course <b>and</b> also does not take the final exam will receive a grade of F for the course regardless of their grade prior to the final exam.</li> </ul>
<p><b>Class Participation and Conduct</b></p>	<ul style="list-style-type: none"> <li>• You are encouraged to ask relevant questions during class.</li> <li>• Your attitude will greatly affect your ability to succeed in this course.</li> <li>• If your comments or actions in class are deemed by the instructor to adversely affect other students' attitudes, they are considered disruptive. If your actions in class are deemed by the instructor to be disruptive, you will be asked to leave.</li> <li>• I will communicate to you mainly during our time in class and through the class web site. You may access the class web site through WebCT.</li> <li>• I will occasionally use your ATLAS email as a means of communication.</li> <li>• Check and read the class web site and your ATLAS email frequently.</li> </ul>
<p><b>Learning Community</b></p>	<ul style="list-style-type: none"> <li>• The learning community consists of 4 elements: <i>Professor</i>, <i>Student</i>, <i>Course Content</i> and the <i>Physical Environment</i>. As your <b>professor</b> I serve to introduce you to the material, present examples and explanations, and serve as a helpful resource during my office hours. It is my job to empower the student to become a successful learner. As the <b>student</b> you must explore all available resources needed to help you succeed. You must realize the fact that the learning is ultimately your responsibility through attending class lectures, reading the book, attempting homework and using any other tools you feel might individually help you. Whether you feel the <b>course content</b> is exciting or boring should not govern the amount of time and energy that you put into learning the content. Keeping a positive attitude is always helpful, and thinking negatively will affect you mentally by making you less motivated. The <b>physical environment</b> refers to the classroom in which the content is presented. If you are respectful of your fellow students and keep the classroom as a proper learning environment (without any unnecessary interruptions) then the maximum amount of learning will take place in this environment.</li> </ul>

<p><b>Fairness Policy</b></p>	<ul style="list-style-type: none"> <li>• Valencia is a great place for students with multiple obligations to pursue an education, as we offer many different class scheduling options and we are committed as an institution to helping students reach their goals. However, it is crucial to the success of our students after graduation (or upon transfer) that we maintain the academic integrity of our classes. Please understand that all students must earn grades using the same scale in order to maintain integrity and provide a level of fairness to all students within a class. Many students are working full time and supporting/raising families, often as single parents; unfortunately, it is not possible to grade students based on what they are experiencing in their individual personal lives. While I am always willing to talk to you and advise you through difficult times, it would not be fair to your fellow classmates, many of whom are going through similar situations, for me to make grading exceptions for one student based on their life situation.</li> <li>• The grading scale is presented earlier in this syllabus and will be followed explicitly for each student. There will be no “extra credit” or additional assignments to help improve your grade.</li> </ul>
<p><b>Core Competencies</b></p>	<p>Valencia Community College desires their graduates to possess and demonstrate a set of global competencies including the ability to <b>THINK, COMMUNICATE, VALUE AND ACT</b>. In an effort to help you acquire and improve your ability to demonstrate these competencies, this course will include activities that require you to:</p> <ol style="list-style-type: none"> <li>1. Think clearly, critically and creatively.</li> <li>2. Communicate with others in written and verbal form.</li> <li>3. Make reasoned value judgments and responsible commitments.</li> <li>4. Act purposefully, reflectively and responsibly.</li> </ol>
<p><b>Disclaimer</b></p>	<p>I may change this syllabus and any policy by providing written notice via email. In addition to the policies outlined above, I adhere strictly to all school policies. You should familiarize yourself with Valencia's policies, including those concerning academic honesty, classroom conduct, and withdrawal from class.</p>