Instructor: Dr. Anahit Galstyan  
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Phone: (956) 665-3556; E-mail: anahit.galstyan@utrgv.edu

Office hours: Tuesday, Thursday  3:00 pm – 4:30 pm or by appointment
Meeting time and place: Tuesday, Thursday - 4:30pm -5.45 pm at MAGC 1.208


Course Description: This course studies first-order and linear second-order differential equations, Laplace transforms, power series solutions, and first order linear systems. Applications of these topics will be emphasized.

Prerequisite: MATH 2414 (or MATH 2488) with a grade of 'C' or better.

Homework: The online homework will be assigned using WebAssign. Each homework assignment will consist of approximately 10-15 problems. The quizzes and exams are based on the homework problems. It is strongly recommended that students work all those problems.

Quizzes: The quizzes are based on the homework problems

Examinations: There will be three one-hour exams and a comprehensive final exam. All students are expected to take the examinations at the announced time. On all problems, you must show your work. Write clearly and show all your work; a correct answer alone may not receive any credit.

Final Exam: The comprehensive final exam will on Tuesday, May 8, 5:45p.m.-7:30 p.m. in the regular classroom.

Grading policy: Three one-hour exams: 60% (=3x20%) ; Comprehensive final 20%; Homeworks and Quizzes 20%.

Calculators: The use of graphing/programmable calculators or computers is recommended but not required. On some tests graphing/programmable calculators will be prohibited.

Grade Distribution:  
<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>0-59%</td>
<td>F</td>
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Attendance: Attendance is mandatory. You are required to come to all class-meetings; please come on time. Please turn off your cell-phones during the class. Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.
**Tutoring:**

There are all kinds of math tutoring available on campus. Math Lab I, II (MAGC 1.106, MAGC 1.308) and the Math Learning Center in the LEAC Building room 114.

**Students with disabilities:**

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time.

**Brownsville Campus:** Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

**Drop Policy**

According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**Makeup Policy**

In case of illness and in rare cases of other conflicts, students with documented excuses may request to take a makeup exam after scheduled exam. In all cases, makeup must be requested before the regularly scheduled exam.

**Important Dates**

<table>
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<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>January 16</td>
<td>First day of class for full semester</td>
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<tr>
<td>January 19</td>
<td>Last day to add a class for spring 2017 semester</td>
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<tr>
<td>January 31</td>
<td>Census Day (last day to drop without it appearing on the transcript)</td>
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<td>March 12 – 17</td>
<td>Spring Break, no classes</td>
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<tr>
<td>March 30 – 31</td>
<td>Easter holiday, no classes</td>
</tr>
<tr>
<td>April 12</td>
<td>Last day to drop (DR grade) a class or withdraw (W grade)</td>
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<tr>
<td>May 2</td>
<td>Last day of classes for full semester</td>
</tr>
<tr>
<td>May 3</td>
<td>Study Day, no classes</td>
</tr>
<tr>
<td>May 4 - 10</td>
<td>Final Exams</td>
</tr>
<tr>
<td>May 11 - 12</td>
<td>Commencement Ceremonies</td>
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**Electronic Communication Policy:**

All electronic communication between the instructor and students must be conducted through the official University supplied systems. Therefore, please use your UTRGV assigned e-mail for all future correspondence with UTRGV faculty and staff.

**Mandatory Course Evaluations**

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (https://my.utrgv.edu/home); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available:

- Feb 14 – Feb 20 for Module 1 courses;
- Apr 11 – Apr 17 for Module 2 courses;
- Apr 11 – May 2 for full spring semester courses.
Scholastic Integrity

As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

SEXUAL HARASSMENT, DISCRIMINATION, and VIOLENCE:

In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

STUDENT SERVICES:

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- Learning center: BSTUN 2.10 (Brownsville) or ELCCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)

Course SLO’s (Student Learning Outcomes)

After completing this course students will

1. Understand what differential equations are, how they arise, why they are useful, and what they can tell us about the situations they model;
2. Be able to use correct differential equations terminology, such as the terms linear, nonlinear, order, explicit solution, implicit solution, ordinary differential equation, partial differential equation, existence of solutions, uniqueness of solutions, etc.;
3. Be able to solve first order differential equations by the standard methods of separation of variables, integrating factors, exact methods, substitutions, and transformations or show that solutions do not exist;
4. Be able to solve certain types of linear differential equations of order greater than one;
5. Be able to model applied problems in terms of differential equations and use the equations to obtain useful information about the problems;
6. Be able to use Laplace transform and series solution methods to obtain solutions and other useful information about the differential equations to which these methods apply;
7. Be able to use technology to solve differential equations or to obtain other useful information about the problems that they model.

**Major SLO’s (Student Learning Outcomes)**

Math w/o and wi Certification SLO’s:

Students completing the B.S. program in Mathematics will

1. Demonstrate in–depth knowledge of Mathematics, its scope, application, history, problems, methods, and usefulness to mankind both as a science and as an intellectual discipline.

2. Demonstrate a sound conceptual understanding of Mathematics through the construction of mathematically rigorous and logically correct proofs.

3. Identify, formulate, and analyze real world problems with statistical or mathematical techniques.

4. Utilize technology as an effective tool in investigating, understanding, and applying mathematics.

5. Communicate mathematics effectively to mathematical and non–mathematical audiences in oral, written, and multi–media form.