

Math 334 -Sections 1 and 2

Ordinary Differential Equations

Summer Term 2022

Professor: *Vianey Villamizar*

Section 1 Class: 10:00 - 11:50 a.m. MWF JKB 2113

Section 2 Class: 2:00 - 3:50 p.m. MWF TMCB 135

Office: 318 TMCB

Email/Phone: vianey@math.byu.edu / 422-1754

Web page: www.math.byu.edu/~vianey

Office Hours: Monday and Friday 4:00 – 5:00 p.m. at TMCB 135,

Problem Session: Wednesday 4:30-6:00 p.m. at JKB 3104,

Text: Elementary Differential Equations, 12th Edition, Boyce - DiPrima, Wiley 2022.

Week	Date	Sections	Comments
1	Jun 20 – Jun 24	1.1-1.2/ 1.3, 2.1-2.2	June 20 Holiday Work Hard and Have a Great Semester!
2	Jun 27 – Jul 1	2.3/ 2.4-2.5/ 2.6-2.7	Tuesday, June 28: Last day to drop the class w/o W Quiz 1: Thursday June 30
3	Jul 4 – Jul 8	3.1-3.2/3.3- 3.4	July 4 Holiday Quiz 2: Th Jul 7
4	Jul 11 – Jul 15	4.1- 4.2, 3.5/ 4.3, 3.6, 4.4/ Review	Midterm: Testing Center Jul 14-15 (Th-Fr) Review Session: Wed Jul 13 4:30-6:00 p.m.
5	Jul 18 – Jul 22	3.7-3.8/ 5.1-5.2/ 5.3- 5.4	Quiz 3: Th Jul 21
6	Jul 25 – Jul 29	6.1- 6.2/ 6.3-6.4	Monday, July 25: Pioneer Day Holiday Quiz 4: Th Jul 28
7	Aug 1 – Aug 5	7.1-7.4/ 7.5-7.6/ 7.7-7.8	Quiz 5: Th Aug 4
8	Aug 8 – Aug 12	Review	Final Exam: Testing Center August 11-12 (Th-Fr) Review Session: Wed Aug 10 4:30-6:00 p.m.

Objectives: To provide the students with a sound and accurate knowledge of the elementary theory of ordinary differential equations. Physical problems have motivated the development of much of mathematics, and this is especially true of differential equations. Many fundamental problems in science, engineering, and other areas as economics are described by differential equations and more and more problems of new and emerging technologies are also described by differential equations. The learning of differential equations can be greatly enhanced by use of Mathematical software, such as MAPLE. I will include MAPLE demonstrations in most of my classes. You can find the corresponding worksheets on my web page. I highly recommend you get some expertise in its use and syntaxes. Many of the problems are best approached with computational assistance.

I believe that my role as your instructor is to help and assist you in the process of learning mathematics. I will do my best to fulfill this role. I know that we will enjoy this class as we go along by making a consistent effort throughout the semester. *This is best worded in the D&C language: And now, if your joy will be great with one type of differential equation that you learn and know how to solve it, how great will be your joy if you learn and know how to solve many differential equations.*

Written Homework: Most of the homework is in written format. If you are register for this class, you are automatically registered for Gradescope. Therefore, create an account if you do not have one. Otherwise, use the one that you already have. Gradescope will allow you to upload your handwritten answers for your homework. Just follow the Gradescope procedure described in its webpage. You will have until 11:59 pm to complete and upload your written homework for the dates indicated in the homework schedule. Make sure you reserve enough time (20-30 mins.) for the uploading process. Solutions to exercises should be clearly written and adequately explained. In other words, it is insufficient just to write down the answer. Late homework won't be accepted. To make up for this your lowest written homework section grades will be

dropped. This policy will take care of any extraordinary circumstances as for example, a sickness, a wedding, and others. Discussion of homework assignments is allowed, but you should keep in mind that homework is an individual work. Homework problems to be graded will be chosen among the whole set of problems. Incomplete homework will receive partial credit according to the amount of problems worked out.

Online Homework: For the online homework, you should register with the online homework system WileyPLUS. You will find instructions for doing it in our Canvas website under:

WileyPLUS Registration: Access to Online Homework and e-Book.

This will also give you access to the e-book. Please note that you do not need to purchase a physical book at the BYU Store (you will be billed directly to your student financial account). Homework problems are drawn from the exercise sets in the book. For best learning complete as much of the online homework as you can before the lecture. It could take as little time as half an hour. You will have until 11:59 pm to complete the online homework for the dates indicated in the online homework schedule. The online homework is due a day after the corresponding class period.

Exams: The Midterm exam will be based on the material covered until the previous Monday July 11. The final exam will be comprehensive. The Midterm exam will be given in the testing center. I expect most students will finish it in at most three hours. However, the time limit will be up to four hours. Only basic scientific calculators (no graphic or symbolic ones) will be allowed in this exam. No books and no other notes will be allowed. Weekly quizzes one hour long (five in total) will be given in the testing center every Thursday except on the first week and the week of the Midterm. The final quizzes grade will be based on your best four quizzes grades. Make up exams and quizzes cannot be arranged except in case of an emergency or absence due to official university business. **The final exam will be in the testing center on August 11-12 with a limit of four hours. Exam and quizzes dates will be strictly enforced.**

The questions will be similar to those discussed in class, or those assigned as homework, but some of them will require a good understanding of the concepts and techniques. The best way to prepare for the exams is to go over the homework problems and the examples worked in class (they constitute your **best study guide**) and then try to solve related problems that you haven't seen before. **If you can reach the point where you can do fresh problems without help in all sections, I can anticipate that you will be able to successfully solve all problems on the quizzes, midterm and final exam.**

Grading: Grades will be based on cumulative points earned as follows:

Written Homework 20 %, Online Homework 7%, Midterm 20 %, Quizzes 25 %, and Final 28 %.

At the end of the semester, **I will make an average based on each one of the above forms of evaluations with their corresponding weights. Then a Gaussian curve will help me to determine your final grade.** In any event, the Gaussian curve will not hurt your grade. I will guarantee the following letter grades:

B+ = 89-87%,	C+ = 79-77%,	D+ = 69-67%,	
A = 100-93%,	B = 86-83%,	C = 76-73%,	D = 66-63%, E = 59-0%
A- = 92-90%,	B- = 82-80%,	C- = 72-70%,	D- = 62-60%.

Keep in mind that a good grade is the end result of a good learning process. All of you can get a good grade by successfully experiencing this learning process.

Honor Code: In keeping with the principles of the BYU Honor Code, students are expected to be honest in all their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Sexual Harassment: Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education and pertains to admissions, academic and athletic programs, and university-sponsored activities. Title IX also prohibits sexual harassment of students by university employees,

other students, and visitors to campus. If you encounter sexual harassment or gender-based discrimination, please talk to your professor or contact one of the following: the Title IX Coordinator at 801-422-2130; the Honor Code Office at 801-422-2847; the Equal Employment Office at 801-422-5895; or Ethics Point at <http://www.ethicspoint.com>, or 1-888-238-1062 (24-hours).

Student Disability: Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability, which may impair your ability to complete this course successfully, please contact the University Accessibility Center (UAC), 2170 WSC or 422-2767. Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. The UAC can also assess students for learning, attention, and emotional concerns. Services are coordinated with the student and instructor by the UAC. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

Respectful Environment: "Sadly, from time to time, we do hear reports of those who are at best insensitive and at worst insulting in their comments to and about others... We hear derogatory and sometimes even defamatory comments about those with different political, athletic, or ethnic views or experiences. Such behavior is completely out of place at BYU, and I enlist the aid of all to monitor carefully and, if necessary, correct any such that might occur here, however inadvertent or unintentional. "I worry particularly about demeaning comments made about the career or major choices of women or men either directly or about members of the BYU community generally. We must remember that personal agency is a fundamental principle and that none of us has the right or option to criticize the lawful choices of another." President Cecil O. Samuelson, Annual University Conference, August 24, 2010 "Occasionally, we ... hear reports that our female faculty feel disrespected, especially by students, for choosing to work at BYU, even though each one has been approved by the BYU Board of Trustees. Brothers and sisters, these things ought not to be. Not here. Not at a university that shares a constitution with the School of the Prophets." Vice President John S. Tanner, Annual University Conference, August 24, 2010