

Los Angeles Valley College
Math 275

“If God has made the world a perfect mechanism, He has at least conceded so much to our imperfect intellect that in order to predict little parts of it, we need not solve innumerable differential equations, but can use dice with fair success”

~Max Born

(German Physicist, Nobel Prize for Physics in 1954)

1. Class Information

Semester: Spring 2010

Section #: 1415

Class Time: MW 8:00-9:25

Classroom: MS 105

Website: lavcmath.com/shin

Textbook: Elementary Differential Equations, 8th Edition, E. D. Rainville, P. E. Bedient, R.E. Bedient

Instructor: Prof. Luz V. Shin

Office: MS 104F

Phone #: 818-947-2393

Student Drop-in Hours: MTWTh 12:30-2 pm

Email: shinlv@lavc.edu

2. Course Information

Title: Ordinary Differential Equations

Description: A study of first order and linear differential equations. Special methods for the solutions of these equations developed and applied. Laplace transform and inverse Laplace transform are developed and applied. Power series solutions and linear systems of differential equations are included.

Prerequisites: A grade of C or better in Math 267.

Course Objectives: Upon completion of this course, the students will:

- Develop notations and terminologies relevant to the study of differential equations.
- Solve first order differential equations and special differential equations, such as Bernoulli equations.
- Solve linear differential equations and nonlinear reducible differential equations and applications such as the Green-Cauchy differential equation.
- Define “Laplace transform” and obtain Laplace and inverse Laplace transforms with their applications in solving initial value problems.
- Solve systems of linear first order differential equations using matrix theory.

Course Student Learning Outcomes: Upon completion of this course, the student will:

- Think analytically about higher level mathematical concepts in order to solve differential equations.
- Analyze problems involving calculus based techniques.

3. Course Requirements

School Supplies: The student is expected to have the following for the semester:

- Textbook
- Graphing or scientific calculator
- Notebook (3-ring binder or file folder) for notes and homework
- Pens, pencils and erasers
- Four Testing booklets (greenbooks/bluebooks) for exams

Homework and Group Work: Refer to the assignment sheet provided for the semester.

Homework is assigned daily and questions discussed the next meeting. Homework is due the next class meeting after it was assigned. No late homework will be accepted at any circumstance. Group work will be given from time to time. Homework and Group Work will combine for a total of 100 points. Mathematics is not a spectator sport, so you have to do the work!

Long Exams: There will be three Long Exams; each will be out of 100 points. Each exam is free response and covers three chapters. Students are not allowed to use notes during exams, but calculators are permitted. The tentative testing schedule is given in the timeline.

Final Exam: Finals is a two-hour comprehensive exam and is given a maximum of 200 points.

4. Class Policy

Attendance: REGULAR ATTENDANCE is very much encouraged! School policy on attendance is enforced. The instructor may exclude students who have excessive absences. There will be sign-in sheets that will be passed around each meeting. It is the student's responsibility to make sure that he/she signs in for his/her attendance.

Withdrawals: If you stop attending the class (or wish to drop a class), **you must drop the class yourself – officially** – by phone, Internet or through the Office of Admissions and Records. Failure to do so may result in a grade of "F" in the class. Please take note of important dates noted in the timeline.

DSPS Students: To make arrangements for special accommodations that have been recommended by DSPS for students with disabilities, please contact the instructor.

Cell Phones and Text Messaging: Please turn off or silent (not vibrate) all phones before coming to class. No text messaging, no MP3's, no ipods, and no hand-held video games while class is in session. Class time is for learning mathematics, not for personal communication or entertainment.

Cheating: Any form of academic dishonesty will not be tolerated. If caught, you may be given a zero for that particular exam.

Student Conduct: Students are expected to adhere to all district policies as described in the LAVC Spring 2010 Schedule of Classes including attendance (p. 133) and withdrawal from classes (p.139), and Standards of Student Conduct (p. 143-145).

5. Grading System

Evaluation: The total points earned will be computed out of a grand total of 600 points. No make-up exam will be given at any circumstance! If you miss an exam, a grade will be assigned from your final exam performance on the missed exam's coverage.

➤ HW/GW	100 points
➤ Long Exams	300 points
➤ Final Exam	200 points

Grading Curve:

➤ A	90 – 100	540 – 600 points
➤ B	80 – 89	480 – 539 points
➤ C	70 – 79	420 – 479 points
➤ D	55 – 69	330 – 419 points
➤ F	below 55	below 330 points

6. Tips for Success in this class

- Choose to attend all class periods on time and don't leave early.
- Pay attention in class, participate in class discussions, and ask questions. The instructor regularly gives away tips for exams, so make sure you take note of them.
- Do or attempt all homework not for the sake of just doing it, but trying to understand the concepts, learning them in the process. "Practice makes perfect" applies not only to music and sports, but also in mathematics. Be sure to schedule sufficient time to complete your assigned tasks before the next class period.
- Know how to get help if you need it.
 - Attend scheduled review sessions.
 - Consult instructor during posted student drop-in hours.
 - Drop by the Math Lab (MS 106) for tutoring services.
- Organize your class materials, including homework assignments, graded tests, notes and worked out review problems. These items will make valuable references when studying for upcoming tests and the final exam.

*"Thus the partial differential equation entered theoretical physics as a handmaid,
but has gradually become mistress."*

~Albert Einstein

*(German born American Physicist who developed the special and general theories of relativity.
Nobel Prize for Physics in 1921)*