

# Syllabus

## Differential Equations 1 (MAP 2302) 3 credits

**Prerequisite:** MAC 2312 or MAC 2282

Instructor:	CRN:
Office:	Office Hours:
E-mail Address:	Phone number:
Lecture Time:	Lecture Room:
Scheduled Lab SE350 Time:	MyMathLab Plus Course ID:
Teaching Asst:	Office Hours:
Office:	Email Address:

**Description:** The main focus of the MAP 2302 is solving initial value problems for linear ordinary differential equations with constant coefficients. Some of the methods employed in this class include undetermined coefficients, variation of parameters, Laplace transforms, power series and Frobenius solutions for linear ordinary differential equations with variable coefficients. Also Homogeneous and non-homogeneous systems of two first order differential linear differential equations with constant coefficients will be solved, and in this context, matrices, eigenvalues and eigenvectors will be used. An introduction to Green functions for initial and boundary value problems will be presented.

**Objectives:** Upon successful completion of this course:

1. Students will be able to use complex numbers, complex valued functions, and the complex exponential.
2. Students will be able to solve constant coefficient linear differential equations.
3. Students will be able to use Laplace transforms, impulse response, and convolution.
4. Students will be able to apply differential equations to solve problems.
5. Student will be able to solve differential equations using series solutions.

**Software:** No software required.

**Materials:** The course will follow the text entitled *Boyce and DiPrima: Elementary Differential Equations (or Elementary differential equations and boundary value problems)*, 9th edition, Wiley.

Some of the suggested homework problems may require use of a calculator (or a spreadsheet). Calculators will NOT be permitted on quizzes, exams, or the final.

A computer lab is available for your use in the Science and Engineering Building, Room 271

**Website:** Blackboard (BB) <http://blackboard.fau.edu> (sign in as you do to MyFau).

**Attendance Policy:** If a class is missed, it is the student's responsibility to obtain from another student any announcements, lecture notes, handouts, and/or assignment changes. Exams will be returned usually the next class period. Out of respect for the classroom environment, please do not arrive late or leave early. Ensure cell phones and pagers are OFF. Do not use the computers in the rooms unless authorized by the instructor for work in class, quizzes, etc. Students with disabilities should contact OSD for advice.

**Tutoring:** Tutoring is available in PS 112. Please see the schedule at <http://www.math.fau.edu/MLC> for tutors and hours of operation.

**Course Grade:** Grading is based on a homework notebook, four exams, as well as a comprehensive final.

Homework	20%
Exam Average	50%
Final Exam	30%

**Grading Scale:** The grading scale will be no worse than the following:

Percentage:	[94,100)	[90,94)	[87,90)	[83,87)	[80,83)	[75,80)	[70,75)	[60,70)	[0,60)
Grade:	A	A-	B+	B	B-	C+	C	D	F

**Exams:** There will be 4 tests (worth 50% of the grade) and a comprehensive final exam (worth 30% grade). Dates for the tests will be announced in class with at least one week warning. Exam questions will be about the homework problems or problems taken directly from the book from the sections relevant for the given test.

**Comprehensive Final Exam:** The final exam is cumulative and will be worth 30% of the grade. Date for the Final Exam is prescribed by the administration. Please check the FAU web site. The final exam will be constructed using the same method used to construct the tests: the problems will be taken from the textbook and will either homework problems or problems that are very closely related to homework problems. Students are only allowed a number 2 pencil, eraser, scientific calculator, and valid picture ID during a testing session. DO NOT BRING CELL PHONES, BOOKS, BOOK BAGS, NOTES, OR ANY OTHER ITEMS TO THE EXAM ROOM! *Entrance to the exam requires a valid picture identification card:* Only FAU Owl Cards, U.S. Passports, or Florida Driver's Licenses will be accepted! *You must take the final exam to receive a passing grade!*

**Makeup Exams:** Makeup exams will be given only under exceptional circumstances. *If you miss an exam, you must provide a written, verifiable excuse, if possible in advance of the scheduled exam.* Approval for a makeup exam must be obtained from your instructor.

**Classroom Etiquette :** Please refer to the FAU Code of Conduct available at [http://www.fau.edu/regulations/chapter4/4.007\\_Student\\_Code\\_of\\_Conduct.pdf](http://www.fau.edu/regulations/chapter4/4.007_Student_Code_of_Conduct.pdf).

**Academic Honesty:** Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001 at [http://www.fau.edu/regulations/chapter4/4.001\\_Code\\_of\\_Academic\\_Integrity.pdf](http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf)

**Students With Disabilities:** In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) and follow all OSD procedures. In Boca Raton, SU 133 (561-297-3880); in Davie, MOD 1 (954-236-1222); in Jupiter, SR 117 (561-799-8585); or at the Treasure Coast, CO 128 (772-873-3305). OSD website at <http://www.osd.fau.edu>.

**Included course topics are subject to reasonable changes at the discretion of the instructor.**