

MTH 322

Advanced Mathematical Analysis

Instructor Information

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Course Description

This course is a continuation of the mathematics sequence for students in the Bachelor of Technology program. Topics to be covered: Infinite series, First and Second order Differential Equations and Applications, Laplace Transform, Taylor Series, and Fourier series.

Course Learning Outcomes: Upon successful completion of the course a student will be able to

- Solve applied science and technology problems using differential equations.
- Use analytical, qualitative, and numerical methods to describe the behaviour of the solutions.
- Differentiate between the Taylor series and Fourier series.

Pre-requisites

MTH 236

Required Materials

Fundamentals of Differential Equations 9th Edition by Nagle, Saff, Snider, and published by Addison Wesley.

A graphing calculator may be used on the quizzes and exams. However, calculators with a computer algebra system (C.A.S) are not allowed.

Course Breakdown

Quiz 1	5 points
Quiz 2	5 points
Quiz 3	5 points
Exam 1	25 points
Exam 2	25 points
Final Exam	35 points
Total	100 points

Homework

There will be a list of suggested homework problems. These problems will not be collected but it is imperative that you do them in order to practice for the exams.

In-Class Quizzes

There will be 3 in-class quizzes on the dates indicated on the calendar, each taking approximately 10-15 minutes. They are worth 5 points each.

Tests

There will be two mid-terms worth 25 points and a cumulative final worth 35 points. The midterms will be in-class on the dates indicated in the calendar. The date of the final is set by the registrar.

Grade Scale

Grade	Minimum %
A	93
A–	90
B+	87
B	83
B–	80
C+	77
C	73
C–	73
D+	67
D	60
F	0

Make-ups

Make-up exams and quizzes will be given to students who miss exams for valid reasons at the discretion of the instructor. In general, acceptable reasons for absence from class include illness, serious family emergencies, special curricular requirements (e.g., field trips, professional conferences), military obligation, severe weather conditions, religious holidays and participation in official university activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) will be excused. Other reasons also may be approved. In addition, if you are already aware of a conflict with an exam date, then you need to discuss this with your instructor within the first two weeks of class.

Temporary Grades

I Grade: A grade of “I” (incomplete) is reported when, for some reason beyond their control, the student misses the final examination or has not completed a portion of the required work for the

course. The decision to grant an “I” is at the sole discretion of the instructor. No achievement points are awarded for an incomplete. All incompletes must be resolved and a change of grade submitted no later than 30 days after the beginning of the next semester (fall to spring, winter intersession to spring, spring to fall, summer session to fall). An instructor may grant an extension of an incomplete grade until the end of the semester by documenting and filling the approved form with the Registrar prior to the conclusion of the 30 day period. Any incomplete grade not finalized or extended by the instructor within the 30 day time period mentioned above will automatically be changed to an “F”. An incomplete does not constitute successful completion of a prerequisite.

Academic Honesty

This course expects all students to act in accordance with the [Academic Integrity Policy](#) at the Farmingdale State College. If you work on the homework with your classmates, you must write your own solutions individually. There should be no help given or received on midterms or the final exam. Academic misconduct includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for academic evaluation (e.g. papers, projects, examinations and assessments - whether online or in class); presenting, as one’s own, the ideas, words or calculations of another for academic evaluation; doing unauthorized academic work for which another person will receive credit or be evaluated; using unauthorized aids in preparing work for evaluation (e.g. unauthorized formula sheets, unauthorized calculators, unauthorized programs or formulas loaded into your calculator, etc.); and presenting the same or substantially the same papers or projects in two or more courses without the explicit permission of the instructors involved. A student who knowingly assists another student in committing an act of academic misconduct shall be equally accountable for the violation, and shall be subject to the sanctions and other remedies described in [the Farmingdale State College Catalogue](#).

Disability Services Center

Located in Roosevelt 151. Phone: (631) 794-6174 Fax: (631) 794-6173.

Disclaimer

This syllabus is not set in stone and I may adjust it as I deem necessary throughout the semester. By taking this course, you acknowledge that you have read this syllabus and abide to it and any such changes.