

Syllabus – MA 361 Differential Equations – Fall 2024

Class: MA 361-01 80937 Class 12:00 - 12:50 pm JAMR 2315

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Office Hour: MWRf 11:00 – noon, 1:00- 2:00 or by appointments

Course Description: First-order equations, theory of second-order linear equations, higher-order linear equations and systems, series solutions, Laplace transform and applications, and stability.

Prerequisites: MA 265 or instructor permission.

Websites for this class:

- 1) **Educat:** <https://educat.nmu.edu/> as the class platform for this course. All grades and course directions will appear on the Educat homepage for this course.
- 2) **Pearson's MyMathLab:** www.MyMathLab.com E-book and homework. There will be a link to this site at the top of our Educat homepage.

Required Access Code: All you really need is an access code for the course embedded with a copy of the e-text **Fundamentals of Differential Equations** 9th Edition by Nagle, R., Saff, Edward B., Snider, Arthur (ISBN-13: 9780134768748). It can be purchased a student access for MyLabMath at the bookstore or you may purchase it online with a credit or debit card.

Required Devices:

1. A computer is required to access EduCat and MyMathLab to complete learning activities of the course.
2. Most of work is done online, so you need internet access. High speed internet access such as DSL or cable is required.
3. You might need a smartphone for CamScanner app or a scanner.
4. You might need a Scientific or especially a Graphing Calculator that a useful tool in the study of Mathematics. You are encouraged to bring one to class every day and to use one to check your homework.

Required Technical Skills:

This online course uses both EduCat and publisher materials. There are minimal technical skills required of you to be successful in the course. Below is a list of technical skills you should have.

1. Log in to your EduCat account (<https://educat.nmu.edu/>) and access course materials provided therein.
2. Log in to your MyMathLab account (www.MyMathLab.com) and complete learning activities.
3. Use a scientific or non-CAS graphing calculator (one that does not do algebra).
4. Be able to access the technologies used in this course, you will need Adobe Reader and Adobe Flash Player. If your computer does not have this software, you can go to the Adobe website at <http://www.adobe.com/products/> and download this software at no charge.
5. Use a scanner to scan a multiple page document into one pdf file and post it into Educat; CamScanner is an app for smartphones and the Lydia M. Olson library on campus has a great scanner.
6. Use email with attachments.
7. Capture work on your screen using the PrtSc key or some program (only necessary if you have questions on work done on your screen that you need to send me).
 - Windows instruction video (<https://www.youtube.com/watch?v=sPpYhwdYIes>)
 - Mac instructions (<http://www.printscreenmac.com/>)

Course Objectives: Upon successful completion of this course the student will be able to:

- use differential equations to model problems that are related to rates of changes;
- to understand the basic concepts and nature of the differential equations;
- to apply solutions techniques to solve the equations;
- to use the technology to graph, analyze and solving differential equation problems;
- To analyze the properties of the solutions;
- To interpret the mathematical results.

These objectives will be assessed through performance on homework, quizzes, and exams.

You will meet the outcomes listed above through a combination of the following activities in this course:

Communication (not graded):

- a) **Email:** You must use your NMU student email address to register the course in WebAssign. Every time you email me, use your NMU student email address, add a subject line and close your email with a signature line with the student's full name and class ID. I will answer your email within 48 hours after I receive it.
- b) **Announcements:** Each time you log on to Educat you will see the announcement page. Most communication will be done through email, but you should check for new announcements.

MyLab Course Registration (2%): To register for Homework on MyLabMath

1. Go to <https://mlm.pearson.com/enrollment/truong02050>
2. Sign in with your Pearson student account or create your account.
3. Select any available access option, if asked.
 - Enter a prepaid access code that came with your textbook or from the bookstore.
 - Buy instant access using a credit card or PayPal.
 - Select **Get temporary access without payment for 14 days**.
4. Select **Go to my course**.
5. Select **MA 361 Differential Equations – Fall 2024** from My Courses.

Attendance (8%): Attendance will be checked randomly and will be calculated into the grade. Remember that the poor attendance is one of the primary causes of failing a class. University policy states that students are expected to attend all classes. However, illness or unexpected emergencies may arise so it is your responsibility to seek assistance from your instructors and your classmates. Note that "Each day you miss, it takes one day longer to be good." If you are a member of an NMU athletic team, you must give the instructor an official copy of your away game schedule to receive an excused absence for classes you will missed due to your participation on the team and you have to complete the make-up assignment.

Online Homework (15%): Each chapter has several online homework assignments on MyMathLab. You should read the text section and watch lecture videos prior to attempting the homework. You have unlimited attempts to get 100% correct for the online homework assignments until the due date. For each hour of "class" time (i.e. learning the material), you should expect an equal amount of time spent on the homework problems. Do NOT wait until the last minute to start the homework, so that you can get help if you need it before the due dates. The MyMathLab program will not allow you to work beyond the due date. If you request an extension, a 10% penalty is applied to your assignment for each week past the due date. You need 70% to get a passing grade. In the other words, if you do not have to do HW, you should drop the course.

Quizzes (15%): quizzes will be given on a biweekly basis (drop one lowest).

Tests (30%): There will be 2 tests. A university-approved excuse is required for rescheduling any test. Students with disabilities should work with Disability Services to arrange for taking tests.

Final Exam (15%): The final exam is comprehensive and must be taken in class on Campus. TBA.

Presentation and Project (15%): Close to the end of the semester, each student is required to write and present a formal essay on the applications of the ordinary differential equations to solving a real-world problem.

Due dates:

Due dates for each learning activities are posted in EduCat and/or MyMathLab. I will review your test two or three days after the due date. I may give you partial credit for some problems that the computer counted wrong. You should review your test as well.

Final Grade:

A	93% up	A –	90 – 92.9%		
B +	87 – 89.9%	B	83 – 86.9%	B –	80 – 82.9%
C +	77 – 79.9%	C	73 – 76.9%	C –	70 – 72.9%
D +	67 – 69.9%	D	60 – 66.9%	F	below 60%

Weighted percentage:	Homework	15%	Exams	30%
	Quizzes	15%	Presentation & Project	15%
	Attendance	8%	Final	15%
	MyLab Registration	2%		

You must get at least 70% on Homework in order to pass the course.

How much time should you spend each day on the class?

You should set aside 1-3 hours each day to learn the concepts and complete the assignments. You need to follow the calendar to keep up with the work. You must know the deadlines of learning activities! You should plan for one hour to read the section in the text and view the worked examples, and then spend 1-2 hours to do homework.

How do I get help in the class?

- My office: See me during office hours or by appointments.
- Mathematics Tutor Lab: Go to the math tutoring lab. More information is posted on Educat when available.
- All Campus Tutoring: Go to All Campus Tutoring (generally available on the weekends). Check their schedule at <https://www.nmu.edu/tutoring/>.

Tips for Success:

Commit yourself to the class on day one. If you devote ample time to working on homework, reading the textbook and your notes, and thinking about the concepts we are learning, you will learn this material and you will learn it well. You will build a strong foundation for future math and science classes, as well as good study and organizational habits, which will be essential throughout your university studies. You have the ability to reach success if you commit yourself to excellence. Moreover, you do not have to reach success alone. Get to know your classmates, and learn with and from each other. Come to see me whenever you have questions.

Email Etiquette Tips:

Did you know NMU provides email etiquette tips at <https://www.nmu.edu/etrcp/email-etiquette>? Please be respectful in all your correspondence with me or other students. This includes email, postings made on Discussion Forums, or any other forms of communication. **Please tell me what class you are in when you email me.** Additional information about NMU's expectations, acceptable standards of behavior, and procedures are in the Student Handbook at <https://www.nmu.edu/dso/studenthandbook>.

Technical Support:

[MyMathLab Student User Guide](#)

WebAssign Tech Support: 800-354-9706 or at [MyMathLab Tech Support](#)

NMU IT Services – <http://it.nmu.edu/helpdesk>

Academic needs:

If you have a need for disability-related accommodations or services, please inform the Coordinator of Disability Services in the Dean of Students Office at 2001 C. B. Hedgcock Building (227-1737). Reasonable and effective accommodations and services will be provided to students if requests are made in a timely manner, with appropriate documentation, in accordance with federal, state, and University guidelines.

There are many resources available to help you succeed in this class and as a student. Here are the links to many campus resources:

Student Handbook: <https://www.nmu.edu/dso/studenthandbook>

Health Center: <https://www.nmu.edu/healthcenter>

Online Student Services: <https://www.nmu.edu/student-service-center/services>

Computer Help Desk (IT): <https://it.nmu.edu/helpdesk>

Disability Services: <https://www.nmu.edu/disabilityservices>

Veterans Services: <https://www.nmu.edu/veterans>

Dean of Students: <https://www.nmu.edu/dso>

Olson Library: <https://lib.nmu.edu>

Counseling Center: <https://www.nmu.edu/counselingandconsultation>

Financial Aid: <https://www.nmu.edu/financialaid>

Everything else offered on this website: <https://www.nmu.edu/students>