Differential Equations

MTH 335-201 || CRN: 3820 || Spring 2026

Instructor: Dr. Tom Cuchta (`cuchta@marshall.edu`)
Time: 3:30–4:45 MW
Credits: 3 undergraduate credit hours
Location: Smith Hall 621
E-mail: cuchta@marshall.edu
Office: Smith Hall 614 (go into room, turn left – my office is inside!)
Office phone: 304-696-3050
Open office hours: See my website `http://tomcuchta.com`. They may change throughout the semester without notice. Alternate office hours may always be scheduled via e-mail. I can be contacted for office hours in person, by email, phone, or thru Teams.
Class webpage: All class information will be posted to the class webpage:
https://tomcuchta.com/teach/classes/2026/MTH335-Spring2026-Marshall/
Textbook: *Ordinary Differential Equations* by Tom Cuchta and Nick Wintz
`https://debook.tomcuchta.com/`
Course Description: A study of differential equations, their solutions, and applications to physical systems, emphasizing closed-form solving methods. Laplace transforms, orthogonal functions, approximation and numerical methods with applications.
Prerequisites: MTH 230 with a minimum grade of C
Online Homework: Administered through WeBWorK: `https://webwork.marshall.edu/`
Quizzes: Quizzes will be given randomly in class and will be unannounced in advance. They will always be posted to the class webpage. Each quiz will be scored out of 10 points. The percentage of the points earned from quizzes will be used in your final grade calculation. The lowest 15% of quiz grades will be dropped.
Attendance policy: Missing class will not directly count against your grade.
Exams: There will be three regular exams in the course, each worth 100 points.
Final exam: There will be a cumulative final exam worth 200 points. The percentage earned on the final exam will replace the lowest hour exam grade (if and only if it helps).
Make-up exam policy: If an exam is to be missed due to an excused absence (defined as in this page), then it is the ***student's responsibility*** to arrange an alternative time to take the exam at least one week before the exam is given.
University policies: Various university policies such as Academic Dishonesty, Academic Dismissal, Academic Forgiveness, Academic Probation & Suspension, Affirmative Action, Pre-Finals Week, D/F Repeat Rule, Excused Absence, Inclement Weather, Sexual Harassment, Students with Disabilities, and University Computing Services Acceptable Use can be found at the Marshall University academic affairs webpage here: `https://www.marshall.edu/academic-affairs/policies/`

Grading policy:

Online homework (OH)	20%
Quizzes (Q)	20%
Hour exams (HE)	35%
Final exam (FE)	25%

Grade	Percentage Range
A	$90\% \leq$ **Percent Earned (PE)** $\leq 100\%$
B	$80 \leq$ **PE** < 90
C	$70 \leq$ **PE** < 80
D	$60 \leq$ **PE** < 70
F	$0 \leq$ **PE** < 60

$$\textbf{PE} = 0.2(\text{OH}\%) + 0.2(\text{Q}\%) + 0.35\left(\sum \text{HE}\right) + 0.25(\text{FE})$$

Health and Safety Information
All members of the Marshall University community are expected to always observe health and safety protocols. This includes general health and safety protocols as well as specific protocols that might emerge in response to community and campus health conditions.

Campus Carry Policy
University Policy, UPGA-12 (Campus Carry Policy) derives its authority from West Virginia State law, including the Campus Self-defense Act (W. Va. Code § 18B-4-5b). It pertains to the exercise of Concealed Carry on Marshall University's campus, except in designated areas, by individuals with a valid permit to Conceal Carry.

Individuals who to Conceal Carry are responsible for knowing and understanding all applicable federal, state, and local laws and Marshall University Board of Governors Rules, University Policies, and Administrative Procedures. University Policy, UPGA-12 applies to areas of campus and buildings that are directly under the possession or control of Marshall University.

Concealed Handguns are not observable to others and must be holstered and concealed on the body of the permit holder or in a personal carrier, such as a backpack, purse, or other bag that remains under the exclusive and uninterrupted control of the permit holder. This includes wearing the personal carrier with a strap, carrying or holding the personal carrier, or setting the personal carrier next to or within your immediate reach at all times. If your participation in class activities impedes your ability to maintain constant control of your Handgun, please make alternate arrangements prior to coming to class.

Generative Artificial Intelligence (AI) Policy
Prohibited Use – Generative AI is fully prohibited in this course.

University policies
By enrolling in this course, you agree to the University Policies. Please read the full text of each policy (listed below) by going to MU Academic Affairs: University Policies. (URL: https://www.marshall.edu/academic-affairs/policies/)

- Academic Dishonesty Policy
- Academic Dismissal Policy
- Academic Forgiveness Policy
- Academic Probation and Suspension Policy
- Affirmative Action Policy
- Pre-Finals Week Policy
- D/F Repeat Rule
- Excused Absence Policy for Undergraduates
- Inclement Weather Policy
- Sexual Harassment Policy- Title IX prohibits the harassment of students based on sex, which includes pregnancy, childbirth, and related conditions. This includes that students will not be penalized for taking medically necessary leave related to pregnancy, childbirth, or related conditions. Marshall's Title IX Office may be contacted at `TitleIX@marshall.edu`
- Students with Disabilities (Policies and Procedures)
- University Computing Services Acceptable Use Policy

Spring 2026 Academic Calendar: https://www.marshall.edu/academic-calendar/spring-2026-semester/

MTH 335-201 Spring 2026

Week #	Dates	Sections
1	12 Jan – 16 Jan	
2	19 Jan – 23 Jan	19 Jan: ***NO CLASS – MLK DAY***
3	26 Jan – 30 Jan	
4	2 Feb – 6 Feb	4 Feb: ***EXAM 1***
5	9 Feb – 13 Feb	
6	16 Feb – 20 Feb	
7	23 Feb – 27 Feb	
8	2 Mar – 6 Mar	2 Mar: ***MIDTERM GRADES DUE*** 4 Mar: ***EXAM 2***
9	9 Mar – 13 Mar	
–	16 Mar – 20 Mar	***NO CLASS – SPRING BREAK***
10	23 Mar – 27 Mar	
11	30 Mar – 3 Apr	
12	6 Apr – 10 Apr	
13	13 Apr – 17 Apr	15 Apr: ***EXAM 3***
14	20 Apr – 24 Apr	
15	27 Apr – 1 May	29 Apr: ***LAST REGULAR CLASS DAY***
16	4 May – 8 May	***FINAL EXAMS***

Course Student Learning Outcomes

Course learning outcome	How practiced	How assessed
Use the definition of the solution to differential and determine if a particular function is a solution of a given differential equation.	Lectures Quizzes Homework	Exams
Choose the appropriate method and solve equations that belong to prescribed classes of differential equations.	Lectures Quizzes Homework	Exams
Analyze the qualitative nature of a solution of an ordinary differential equation (or system of ordinary differential equations) without the benefit of an explicit solution.	Lectures Quizzes Homework	Exams