

# Course Syllabus for Diff. Eq. (MAT 4834)

## Dual Credit for BSU MATH374

### General:

Instructor: Joshua Ruark                      Office: Wagoner 150  
Day/ Time: 11 AM MWF                      Office Hours: MW 1-4PM; F 1-3PM; TR By Appointment  
Phone Number: 765-285-7410                Email: jjruark@bsu.edu  
Text: *Elementary Differential Equations and Boundary Value Problems* (10<sup>th</sup> edition; by Boyce and DiPrima.; Wiley; 2012.  
Technology: TI-89 or higher calculator; Mathematica Software

### Content:

Topics include but at not limited to:

- First order differential equations (linear and otherwise)
- Second and higher order linear differential equations
- Laplace transform
- Systems of first order linear equations

### Grading:

Grades for the course and assignments are assigned by the following percentages:

	100-93 — A	92-90 — A-
89-87 — B+	86-83 — B	82-80 — B-
79-77 — C+	76-73 — C	72-70 — C-
<70 — D*		

The final grade in the course will be determined by the following factors:

Homework:	10 %
Quizzes:	10 %
Midterm exams:	60% (15% each)
Final Exam:	20%

### Assignments:

For nearly every section, there will be a homework assignment. Homework will be collected on a regular basis and checked for both completeness and accuracy. Generally, it will be collected two class periods after it is assigned. Expect quizzes on a near weekly basis that will cover material discussed the previous two weeks in class. Depending on the number of quizzes, I will drop up to the lowest three scores from consideration for the overall quiz grade. At the end of each chapter or couple of chapters, there will be a midterm exam covering that material. Finally, at the end of the course, you will have a final exam that will encompass all the material presented during the semester. As the final

exam is cumulative, its score will replace any lower midterm exam scores throughout the semester. Furthermore, I will post a lesson plan for each section covered on the BlackBoard page for this course. I highly recommend reviewing and printing off the page before you come to each lecture. Additionally, you will find the homework assignment for each section at the bottom of the posted lesson plan. Warning: these lesson plans are meant as a guide to help you in your note taking, and should not be considered a substitute for coming to class.

## Academic Integrity:

As a firm believer that grades should reflect learning, academic integrity is paramount to the academic experience. Please review the Academy's Academic Integrity policy as it will be strictly adhered to in my class.

Examples of behavior subject to review under the Academic Integrity policy include, but are not limited to:

- 1, Copying someone's work and turning it in as one's own
- 2, Use of aids and/or other materials on quizzes and exams without expressed permission.
- 3, Use of calculators when explicitly forbidden to do so.
- 4, Copying another person's work or answers on a quiz or exam.

I encourage you to work in groups when doing the homework assignments as much can be learned from your peers that you may not always pick up in class. However, each individual is required to turn in work in their own handwriting accompanied by the requisite work shown to receive full credit.

## Technology:

The use of technology is limited to that which will enhance the learning process. Use of laptops is permitted as long as it is not distracting from what is transpiring in the classroom. Calculators, though not required, are welcome to be used for the majority of homework, quiz, and exam assignments. However, there will be instances where calculators are NOT allowed, but you will be informed in advance when these times occur. In addition, we will utilize Mathematica Software to help model and solve problems throughout the course.

## Attendance:

Attendance will be taken at the beginning of the hour. You are responsible to be on time for each class period. Failure to attend class will result in disciplinary action as set forth by Academy policy regarding absences and tardies. You will be considered absent if you arrive more than 10 minutes late. However, I recommend still coming to class, even if you will be marked absent in order to miss as little critical information as possible.

## Unexcused Absence

It is the policy of the Indiana Academy that any absence from class is unexcused, except for illness, death in the family, college or school-related activities, and extenuating circumstances. When a student is absent from a class, the instructor reports the student absence to the Faculty Attendance Coordinator in the Office of Academic Affairs. Unless the absence is excused by a school official, it is considered unexcused. The decision as to whether an absence is excused is not determined by the instructor.

Any unsubmitted assignment that is due on the day of an unexcused absence is subject to receiving a grade of "0" with no possibility of changing the grade. The only exception is an exam, which will still be recorded as a "0" but may be replaced with a higher percentage attained on the final exam minus ten percent.

## Late Work/ Make-up policy:

It is my policy not to accept late work/ allow make-up work unless there is an excused absence the day an assignment was due. If you can't be in class the day an assignment is due, please bring it by my office. If you miss a quiz or exam due to an excused absence, it is up to you to schedule a time with me (office hours or other) during which you can take the exam or quiz. You must contact me within a week of the missed assignment and complete the assignment within two weeks of missing it.

## Diversity Statement:

Ball State University aspires to be a university that attracts and retains a diverse faculty, staff, and student body. We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse as expressed in our Beneficence Pledge and through university resources found at <http://cms.bsu.edu/campuslife/multiculturalcenter>.

## Mask Policy:

The Indiana Academy will follow [Ball State University's mask policy](#). Effective July 1, 2020, all people on campus—including faculty, staff, students, vendors, contractors, suppliers, and visitors—should wear face masks (covering nose and mouth) while inside campus buildings. Face masks are specifically required in the following situations:

- i. When in the presence of others (indoors or outdoors) and physical distancing is difficult to maintain, such as in hallways, elevators, stairs, public spaces, and common areas;
- ii. When in a classroom or laboratory;
- iii. When using campus transportation (such as a shuttle bus);
- iv. When multiple individuals are in a University vehicle.

Students, faculty, and staff are encouraged to bring their own mask. Masks will be provided to anyone who is unable to bring a mask or their mask is damaged.

## Non-compliance

If a student declines to wear a face mask as required, the student will be referred to the Director of Academic Affairs or the Director of Residential Affairs. If the situation occurs in a classroom or other academic setting, it is considered a classroom management issue, and the teacher will remind the student of the requirement and give the student a chance to comply with it prior to referring the matter to the Director of Academic Affairs or the Director of Residential Affairs. Wearing masks is crucial to preventing the spread of COVID-19 to others.

	Monday	Wednesday	Friday
3-Jan	Syllabus/1.1	1.2/1.3	2.1-Q
10-Jan	2.2	2.3	Topics in D Eq-Q
17-Jan	MLK Day	2.4	2.5-Q
24-Jan	2.6	2.7	Review
31-Jan	Exam 2	3-1	3-2
7-Feb	Extended	3.2	3.3-Q
14-Feb	3.4	3.5	Topics in D Eq-Q
21-Feb	3.6	3.7	3.8-Q
28-Feb	4.1	4.2	4.3-Q
14-Mar	4.4	Review	Exam 2
21-Mar	6.1	6.2	6.3-Q
28-Mar	6.4	6.5	Topics in Lap.-Q
4-Apr	Review	Exam 3	7.1
11-Apr	7.2	7.3-Q	Extended
18-Apr	Extended	7.4	7.5-Q
25-Apr	7.6	Review	Exam 4
3-May	Review for Final	Review for Final	Review for Final