

## MAT 4134 Advanced Placement Calculus BC 2

Spring 2022

Ms. Jessica Edrington

SCHEDULE:	Period 1-2	8:00-9:50 MWRF	BU 219
	Period 13-14	9:00-9:50 MWRF	BU 219
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### Office Hours:

Office hours will be posted every week on Canvas (under announcements) and outside my office. They will include at least two days a week from 2-5pm and will total at least 10 hours a week.  
**and by appointment.**

**DESCRIPTION:** This course meets four days a week and covers the College Entrance Examination Board's BC syllabus in Advanced Placement Calculus. Students are encouraged to register for the AP exam and may find that their college grants them credit for up to two semesters of calculus. Topics covered in the two-semester sequence include limits, derivatives, integrals, series, vectors, and parametric equation, as well as their applications in numerous real-world problems. Treatment of these topics involves both theory and its implementation on graphing calculators, and as part of the study of these topics, we will also consider how different cultures have contributed to and approached many of these topics.

**DUAL CREDIT:** Ball State University offers 4 college credit hours per semester in MATHS 165 and MATHS 166 to students who pass both semesters with a grade of at least C. Successful completion of the first course is a pre-requisite for enrollment in the second course. Enrollment to the University for credit must be done at the beginning of the semester.

**PREREQUISITE:** MAT 4133 (AP Calculus BC 1), MAT 4124 (AP Calculus AB 2), or the equivalent.

### COURSE CONTENT:

Chapter 6	Differential Equations	6.1, 6.3-6.4
Chapter 7	Applications of Integration	7.4-7.5
Chapter 8	Integration Techniques & Improper Integrals	8.1-8.8
Chapter 9	Infinite Series	9.1-9.10
Chapter 10	Conics, Parametric Equations, & Polar Coordinates	10.1-10.5

**TEXT:** Larson, and Edwards, *Calculus of a Single Variable*, eleventh edition, 2018, CENGAGE Learning, ISBN 978-1-337-28690-9.

**CALCULATOR:** The TI-84 Plus calculator will be used extensively in this course. The TI-83 and TI-83 Plus calculators are similar. Use of TI-89, TI-92 and other symbolic algebra calculators will **not** be allowed for exams and quizzes in this course.

### METHODS OF STUDENT EVALUATION:

**Exams (50%):** At the end of each unit, there will be an exam covering that material. Exams are modeled on the AP Exam and that unit's material may also include content from previous units. Dates will be announced at least one week in advance. Exams may have calculator and no-calculator sections.

**Quizzes (20%):** There will be approximately 7-10 short quizzes, both announced and unannounced.

**Homework (10%):** For nearly every section, there will be a homework assignment. For each section, students will be expected to either submit a digital scan of this assignment or complete a short homework quiz over that assignment on Canvas. These assignments or quizzes will usually be due at the beginning of the second class after the homework set is assigned. What may also be included in the homework grade is projects. These may be extended assignments involving challenging applications and problems that will be given either as individual or group projects. Each project should include a detailed report of the methods and solution as well as the answer.

**Final Exam (20%):** A comprehensive final exam will be given during the designated time period the week designated on the school calendar. As the final exam is cumulative, its score may replace one lower exam score from earlier in the semester.

The following standard overall grading scale will apply:

	92.5% - 100%	A	89.5% - 92.49%	A-
87.5% - 89.49%	82.5% - 87.49%	B+	79.5% - 82.49%	B-
77.5% - 79.49%	72.5% - 77.49%	C+	69.5% - 72.49%	C-
	0% - 69.49%	D*		

**CLASS ATTENDANCE POLICY:** Students are expected to attend every class and be on time. Academy policies on attendance and tardiness will be followed. Sleeping in class constitutes an unexcused absence. Being late more than 10 minutes is recorded as Absent. In the event of unexcused absences, make-up homework, quizzes, or exams will not be allowed. For an excused absence, assignments due that day are expected by class time the next day (not the next class day). Absence from a prior class will not allow the student to defer a scheduled quiz or exam.

“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.

\*You are expected to attend every class. You are allowed one unexcused absence without penalty. Each additional unexcused absence will be penalized as follows: Unexcused absence (1) = 1-point subtraction from final grade. Unexcused absence (2) = 3-point subtraction from final grade. Unexcused absence (3) = 5-point subtraction from final grade. (For example, if you have an 89 final average with (3) unexcused absences your final grade will be 84). Four (4) or more unexcused absences will lead to academic and residential consequences beyond the scope of this class determined by the Office of Academic Affairs (i.e., residential groundings, parent/principal conference, and/or detention).

\*\*Any minor assignment/test/project/presentation missed due to an unexcused absence will be handled according to the late work policy of this class. You will be given an opportunity to retake any missed assignment/test/project/presentation worth more than 20% of the final grade but will be docked a full letter grade as a result.”

**ACADEMIC INTEGRITY POLICY:** Academic dishonesty in any form is unacceptable and will not be tolerated. Students are responsible for knowing the policies and consequences as stated in the Academy handbook. For this course, cooperative group work on homework assignments is appropriate and encouraged but copying of an assignment from another is not acceptable. Giving information about the content of quizzes or exams to students yet to take the test is a severe violation of academic honesty standards.

**CELL PHONES:** Cell phones and other mobile devices should not be accessed or visible in the classroom unless you are using it as a tool to take notes. Be sure to disable device so that it will not ring, buzz, shake, or otherwise interrupt class. Enjoy the text-free hour.

**EATING IN CLASS:** Eating, drinking, and chewing gum is not allowed in the classroom.

**LAPTOP COMPUTERS:** The graphing calculator will be the primary technology in this course, and little use of laptop computers is anticipated except on virtual learning days.

**METHODS OF COURSE EVALUATION:** Evaluation, including student evaluation of the course, will be conducted according to Academy policy.

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>.

### Indiana Academy Mask Policy

#### I. Requirement

II. 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:

- a. 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;
- b. When in a classroom or laboratory;
- c. When using campus transportation (such as a shuttle bus);
- d. 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.

III. 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.