

## MAT 4133 Advanced Placement Calculus BC 1

Fall 2021

Ms. Jessica Edrington

SCCHEDULE: Period 1-2 8-8:50 MWRF  
Or Period 3-4 9-9:50 MWRF  
Office: WA152 Phone: 285-7420

Burris 219  
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E-mail: [jaedrington@bsu.edu](mailto:jaedrington@bsu.edu)

Office Hours: MWF 10am – 11:45am; 2pm – 3pm  
T *Hours will vary*  
R 10am – 1pm

**and by appointment** (these may be in person or on Zoom as appropriate)

I will also be available by email until 10pm most evenings.

Any changes to these hours will be posted outside my office door and/or as a Canvas announcement.

**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 fall semester.

**PREREQUISITE:** For seniors, excellent performance in Precalculus for AP 1-2 with teacher recommendation. For juniors, placement.

### COURSE CONTENT:

Chapter 1	Limits and Their Properties	1.1-1.5
Chapter 2	Differentiation	2.1-2.6
Chapter 3	Applications of Differentiation	3.1-3.9
Chapter 4	Integration	4.1-4.6
Chapter 5	Logarithmic, Exponential and Other Transcendental Functions	5.1-5.9
Chapter 6	Differential Equations	6.1-6.4
Chapter 7	Applications of Integration	7.1-7.2

**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 are 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 of December 13-17. 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%	B+	82.5% - 87.49%	B	79.5% - 82.49%	B-
77.5% - 79.49%	C+	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.

**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.

**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**

The Indiana Academy will follow [Ball State University's mask policy](#) (see Section IV). Based on current CDC guidance recommending the wearing of face masks for all people—regardless of vaccination status—in public indoor settings in communities where the rate of coronavirus transmission is high or substantial, all employees, students, and campus visitors are required to wear a mask while inside any University building. This requirement is effective on August 9, 2021. Fully vaccinated people are not required to wear masks outdoors.

Individuals who are not fully vaccinated for COVID-19 are required to wear face masks while inside campus buildings and outside when physical distancing cannot be maintained.

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.