

AP Calculus BC

Contact Information

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Course Information for AP Calculus BC

AP Calculus BC is intended for students who have successfully passed AP Calculus AB and continue to demonstrate a thorough knowledge of algebra, axiomatic geometry, trigonometry, equations and their graphs, lines, conic sections, and elementary functions. Topics included in this course are a review of calculus one, solving application problems using calculus, basic techniques of integrations, evaluating indeterminate forms, integrating improper integrals, evaluating infinite series, power series, and analyzing plane curves and 2-D geometry.

Students can receive dual credit with Des Moines Area Community College by successfully completing both semesters of this course. Students will enroll in the DMACC course MATH 217 Calculus II during the second semester of AP Calculus BC. DMACC will grant a total of 5 college credits upon successful completion of both semesters of AP Calculus BC.

Students can also receive dual credit by taking the BC exam in May. The Advanced Placement Program (AP) is a collaborative effort between motivated students, dedicated teachers, and college universities. Most colleges in the United States, as well as colleges in more than 30 countries, have an AP policy granting incoming students credit, placement, or both on the basis of their AP Exam grades. For more information about the AP program, visit the [College Board website](#).

Supplies Needed

- Notebook (notes and assignments)
- Folder for organizing handouts
- Pen, pencil, erasers, and personal dry erase markers
- TI-83, TI-84, or TI-89 Calculator. See me if you need assistance acquiring a calculator for class use.

Textbook

Calculus for the AP Course/third edition. /authors Sullivan and Miranda

You will be given online access to the textbook. If you would like to check-out a textbook through the media center, please speak with Mr. Petersen.

Absences

You must take the initiative to determine what assignments have missed and schedule a time to take missed tests or quizzes.

Advanced absence: Any homework/test/quiz must be completed before your absence, and you must be ready for any homework, test, and/or quiz when you return to class. This is your responsibility.

Grading

Ultimately, a student's grade needs to reflect the level of mathematical knowledge and ability acquired. To reflect the level of student mastery, the majority of a student's grade will be comprised of the Individual Test average.

Final Grade:

18 Week Grade	90%
Semester 1 Final Project	10%

DAILY WORK

- **Textbook Homework:** Homework assignments from the textbook are recommended. It needs to be complete and needs to show all work. Homework needs to be organized in a notebook by unit, assignment number, and section. A minimum of 10 problems per textbook assignment needs to be completed in order to be eligible for retake tests.
- **AP Questions:** Questions similar to possible AP questions will be assigned regularly. Responses need to be complete and show all work. This will be graded on accuracy according to AP standards. The deadline for weekly homework is one week after the due date at the beginning of class. After this time it will NOT be accepted for credit. All weekly homework must to be completed by the deadline with corrections made in order to be eligible for retake tests.
- **Assignments:** Periodically you will be given assignments that will be turned in for points. These will be graded on completion and/or accuracy. All assignments must be completed in order to be eligible for retake tests.

ASSESSMENTS

Graded assessments in the form of quizzes or tests are always announced in advance. No books or notes may be used on any assessment unless announced in class. Assessments are to be completed during the time allowed. Many of the questions will be similar to released AP exams and there will be questions where students will need to explain the problem or concept thoroughly. To promote long term retention of concepts, all individual assessments will be created using previously learned material and new material. Assessments scores will be listed in the gradebook according to standard. Students will have optional retakes on identified exams as long as they meet the requirements outlined on the Calculus II Retake Requirements form. The second test score will be entered into infinite campus even if that test is lower than the first test. NO EXCEPTIONS.

- **Quizzes:** Quizzes are announced in advance. Quizzes will be taken individually. No books or notes may be used on quizzes. Quizzes must be completed during the time allowed. No retakes on quizzes. Homework will be collected and graded the day of a quiz.
- **Midterm Exam:** The midterm exam will be given at the 9-week point. It will focus on the major AP topic of advanced integration but will also have review AB content. This will be similar to a small AP exam with both calculator and non-calculator sections and multiple choice and free response. A student has 3 weeks after return of exam to retake if he/she qualifies.
- **18 Week Exam:** The 18-week exam will be given in December before winter break. This will be similar to a small AP exam with both calculator and non-calculator sections and multiple choice and free response. A student has 2 weeks after return of exam to retake if he/she qualifies.

Calculus 2 Standards

Math.CalcBC.01: Students will use limits to understand the behavior of functions and apply this concept to derivatives and integrals.

Math.CalcBC.02: Students will demonstrate conceptual understanding of the derivative in multiple ways and use notation accurately.

Math.CalcBC.03: Students will calculate derivatives using multiple strategies.

Math.CalcBC.04: Students will apply the concept and computation of the derivative to problem situations and connect those applications to limits and integrals.

Math.CalcBC.05: Students will demonstrate a conceptual understanding of integrals using a variety of strategies and contexts and appropriately use notation.

Math.CalcBC.06: Students will calculate integrals using a variety of strategies, and use the Fundamental Theorem of Calculus to make connections between differentiation and integration.

Math.CalcBC.07: Students will use integrals to solve application problems, and use the Fundamental Theorem of Calculus to make connections between differentiation and integration.

Math.CalcAB.08: Students will determine the convergence or divergence of infinite series, and use the interval of convergence of power series to represent functions.

Grading Scale

Letter Grade:	A
Minimum Percent:	92.5
Letter Grade:	A-
Minimum Percent:	89.5
Letter Grade:	B+
Minimum Percent:	86.5
Letter Grade:	B

Minimum Percent:	82.5
Letter Grade:	B-
Minimum Percent:	79.5
Letter Grade:	C+
Minimum Percent:	76.5
Letter Grade:	C
Minimum Percent:	72.5
Letter Grade:	C-
Minimum Percent:	69.5
Letter Grade:	D+
Minimum Percent:	66.5
Letter Grade:	D
Minimum Percent:	62.5
Letter Grade:	D-
Minimum Percent:	59.5
Letter Grade:	F
Percent:	below 59.5

Behavioral Expectations

The work habits/behavior standards are for grades 6-12 courses in our district. These work habits/behavior standards will be reported throughout the semester and are as follows:

- Organization and Readiness
- Productivity and Accountability
- Collaboration Skills

For those of you accessing this document electronically, the work habits tool can be accessed online: [Work Habit Online Link](#). We will be using the following performance levels:

Performance Levels for Work Habits/Behavior Standards:

MS represents Meets Standard

PM represents Partially Meets Standard

DM represents Doesn't Meet Standard

NE represents No Evidence at this time

These descriptors are intended for feedback and communication and do not impact a student's GPA.

Methods of Obtaining Help

Individual help is available before school. See **CalcChat.com** for tutorial help and worked-out solutions to odd-numbered exercises. Students can watch a relevant video on the assessment topic from YouTube or Khan Academy. A calculus complete solution guide is available in my room for your convenience.

Practice the skills being taught daily, ask questions during class, take notes, and pay attention in class. I want each of you to do the very best job you can in your study of mathematics.