BC Calculus

Mrs. Bond

# Course Description:

AP Calculus is comparable to calculus courses in colleges and universities. It is expected that students who take an AP course in calculus will seek college credit, college placement or both, from institutions of higher learning.

Calculus is primarily concerned with developing the students’ understanding of the concepts of calculus and providing experience with its methods and application. The course emphasizes a multi-representational approach to calculus with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. The connections among these representations are also important. (The College Board – AP Calculus Teachers Guide)

This course is taught over 3 semesters and will cover all topics included in the Calculus AB topic outline as it appears in the *AP® Calculus Course Description*, as well as some selected topics from Calculus BC.

# Contents:

* Limits and Continuity
* Derivatives
* Applications of Derivatives
* The Definite Integral
* Differential Equations and Mathematical Modeling
* Applications of Definite Integrals
* Sequences, L’Hôpital’s Rule, and Improper Integrals
* Infinite Series
* Parametric, Vector, and Polar Functions

Materials:

* Textbook:

## Rogawski’s Calculus for AP (2nd Edition)

Rogawski, Cannon

* Graphing calculator:

It is helpful if students have their own graphing calculator, as there will be homework assignments where it is required. Instruction is given using primarily the TI-84 and the

TI-Nspire, however other graphing calculators may be used.

* Spiral notebook – 8 ½ by 11-inch is recommended
* Folder
* Pack of AAA Batteries

Grading:

Grades will be determined with the DPS grading scale and will be based quizzes, projects, exams and other work done in class

* Exams (60%). Exams will be given every four weeks. Some exams (or parts of exams) may require the use of a graphing calculator. All exams are closed book with no notes. Students are required to support their answers with appropriate work or justifications on each problem.
* Quizzes, Projects, etc (40%)
  + Multiple Choice Quizzes will be given every four weeks. Questions will be modeled after AP multiple choice questions and will include current and review material. Some quizzes may be open note or partner quizzes.
  + Free Response Quizzes will be given every four weeks. Questions will be modeled after AP free response questions and will include current and review material. Some quizzes may be open note or partner quizzes.
  + Benchmark Quizzes will be given every four weeks. These quizzes will be open note and based on current material. Questions on the quiz will be similar to the recommended practice problems.
  + Retention Quizzes will be given every week, highlighting concepts you need to know. If you are absent for a retention quiz, the summative quiz at the end of the grading period will make up for any missing quizzes. Topics covered include: Unit circle values, factoring, solving equations, writing an equation of a line, derivatives, etc.
* Practice Problems

For each topic covered practice problems from the book will be given. Student will turn in their practice problems on the day of each test. The solutions and work to all problems will be available for students to check their work and understanding.

When given time during class, it is expected that students are working on these problems.

**Multiple Choice Quizzes, Free Response Quizzes, Benchmark Quizzes and Exams will be given every Tuesday on a rotating schedule. If you are absent, you have until 2:45 on Friday to make up the quiz or exam.**

Make-up work: If you miss class for any reason, you are not excused from the work assigned that day. It is your responsibility to request make-up work or schedule time to make up tests. Make-up work will only be given at lunch, before and after school. Do not plan on having class time to makeup work. All notes will be posted online at: tj-bond.wikispaces.com

Please come in for help if you have questions. I am available:

Wednesdays during office hours (2:14 – 2:50)

Most days before school (7:00 – 7:20), lunch and after school (2:50 – 3:15)

Other times by appointment

I will be more than happy to work with you.

Feel free to call me at school or send me an e-mail with any concerns.

Phone: 720-423-7136 E-mail: [aimee\_bond@dpsk12.org](mailto:aimee_bond@dpsk12.org) Website: tj-bond.wikispaces.com

Classroom Expectations:

* Be considerate of the other people in the room. **Don’t interrupt anyone who is taking**, whether it is a student or teacher.

**Unrelated conversation does not help you or your grade**.

If you don’t understand something, ask a question. THERE IS NO SUCH THING AS A DUMB QUESTION. As long as questions are legitimate, I will take time to answer them. Make sure you use your class time wisely.

* Come to class on time and prepared to learn. Bring your book, paper, pencil, calculator and supplies.
* Attempt ALL work to the best of your ability and take responsibility in asking for help.
* No cell phones, headphones, electronic games, or video or audio devices