

## **SYLLABUS FOR ADVANCED PLACEMENT CALCULUS AB**

*Douglas Anderson School of the Arts – Mrs. Gulamali (Sloss)*

### **COURSE DESCRIPTION AND PREPARATION:**

Calculus is the branch of mathematics that deals with limits, derivatives and integrals. Before studying calculus, all students are required to have taken Geometry Honors, Algebra II Honors and Precalculus. Students must be very familiar with the study of functions; specifically, the properties of functions, the algebra of functions, and the graphs of functions. Types of functions include linear, polynomial, rational, exponential, logarithmic, trigonometric, inverse trigonometric, and piece-wise defined. Advanced Placement Calculus AB is a college-level Calculus I course offered for high school students. In early May, all students will take a national standardized exam, the successful completion of which may allow them to place out of first year calculus at many colleges and universities.

### **COURSE GOALS:**

At the completion of this course students should be able to:

- work with functions represented numerically, graphically, analytically, or verbally.
- understand the meaning of the derivative as representing a rate of change as well as the slope of the tangent line to a function at any point on the curve of the graph of that function, and they should also be able to use the derivative to solve a variety of problems.
- understand that integration is the inverse of differentiation, as expressed in the Fundamental Theorem of Calculus; and know that the definite interval is the limit of Riemann sums as well as the net accumulation of change; and be able to use integration to solve a variety of problems.
- use appropriate technology to help solve problems, interpret results and verify conclusions.

### **TEXTBOOK:**

**Finney, Ross L., Franklin D. Demana, Bert K. Waits, and Daniel Kennedy. *Calculus: Graphical, Numerical, Algebraic*. 4th ed. Prentice Hall, 2012.**

Students are also strongly advised to purchase an AP Calculus exam prep book for additional practice.

### **ONLINE TEXTBOOK:**

An online version of the textbook is available on Microsoft Teams.

### **COURSE OUTLINE:**

#### **FIRST QUARTER:**

- Chapter 2 – Limits and Continuity
- Chapter 3 – Derivatives

#### **SECOND QUARTER:**

- Chapter 4 – More Derivatives
- Chapter 5 – Applications of Derivatives
- Chapter 6 – Estimating Area and The Definite Integral

#### **THIRD QUARTER:**

- Chapter 6 – Estimating Area, The Definite Integral, and the Fundamental Theorem of Calculus
- Chapter 7 – Differential Equations
- Chapter 8 – Applications of Definite Integrals

#### **FOURTH QUARTER:**

- AP Exam Review
- AP Exam: Monday, May 9 at 8:00 am

## **COURSE MATERIALS:**

Students are expected to have a notebook, ruler, graph paper, and a graphing calculator. The TI-84+ CE graphing calculator is strongly recommended and will be used for classroom demonstrations. It cannot be stated strongly enough that a graphing calculator is necessary for this class. All course materials as well as the textbook and writing utensils should be brought to class every day.

## **EXTRA HELP:**

Extra help is available during Lunch and Learn or before school. In addition, student tutors are available through the school's National Honor Society. Students should come prepared with specific questions – tutoring time will not be devoted to re-teaching class material, even for students who have been absent from class

## **STUDENT EVALUATION/HOMEWORK:**

Students will be evaluated by a variety of methods in this class, including the following types of assignments.

1. Homework will be assigned daily and occasionally graded in the following ways:
  - a. Completion
  - b. Responses to specific problems collected and graded for accuracy
  - c. Homework quizzes
2. DeltaMath assignments graded for accuracy.
3. AP Classroom assignments.
4. Regular classroom exams and quizzes.
5. Cumulative exams given at the end of each quarter. This exam will count as a test grade and will replace the lowest test grade for the quarter.
6. Free Response and Multiple Choice questions taken from AP Calculus exams from previous years.
7. At least one complete practice AP Calculus AB exam given in an exam setting.

A student's grade in the class will be assessed on a point system, which is the percentage of points achieved out of the total possible points. The county grading scale is as follows: 90 – 100 % = A; 80 – 89 % = B; 70 – 79 % = C; 60 – 69 % = D; 0 – 59 % = F. Students will receive a progress report at each mid-quarter. Student grades are also available at any time for students or parents from any Internet-capable computer on Focus.

## **HANDING IN HOMEWORK:**

All homework will be turned in digitally via the DCPS Focus portal. Assignments should be scanned as a .pdf file and uploaded as a single file into Focus. Multiple pages of photos, or zipped files cannot be accessed for grading within the Focus software, and will, therefore, not be accepted. If you have any issues with formatting or turning in work, please reach out to me for assistance.

## **MAKE-UP POLICY:**

Regular attendance in this or any class is **ABSOLUTELY VITAL**. As always, **make-up work remains the FULL responsibility of the student!** County policy states that make-up work due to absence is due the number of days absent following the student's return. Exams and assignments announced in advance will be taken and are due on the announced date regardless of a student's attendance prior to the date. **Missing a review the class period prior to a test date does NOT excuse a student from taking a test.** It ALWAYS remains the responsibility of the student to determine what work has been missed and to complete the make-up work. An extended absence due to illness should be confirmed with the Guidance Office so that makeup work can be delivered to the student.

## **CONTACT INFORMATION:**

Mrs. Kinsey Gulamali (Sloss), Douglas Anderson School of the Arts, Room 110

E-mail: [slossk@duvalschools.org](mailto:slossk@duvalschools.org)

Website: [www.MrsGulamali.com](http://www.MrsGulamali.com)

Planning/Conference Time: Periods A4 and B4

## THE DA INTEGRITY STATEMENT:

At Douglas Anderson, we believe that the arts define us. We believe that the arts enrich all human endeavors by bridging differences among people and teaching creative and critical thinking skills. We believe that an environment that promotes student learning and encourages the creative process is physically, intellectually, and emotionally safe. Providing a creative, equitable, and inclusive atmosphere where all students can realize their artistic dreams is integral to our mission of becoming the leading public arts high school in the nation.

It is the expectation that all students at Douglas Anderson School of the Arts hold themselves to the highest standards academically, artistically, and behaviorally. We have a zero-tolerance policy regarding the following:

- **Academic Dishonesty** *including but not limited to:*
  - **Cheating:** Copying answers, data, or other information (or allowing others to do so)
  - **Plagiarism:** Representing the ideas or work of another person as the student's own.
  - **Unauthorized Assistance:** Using a personal electronic device or other form of study aid, physical or digital, during an assessment or assignment without the faculty member's express permission.
  
- **Excessive Unexcused Absences** *including but not limited to:*
  - 5 or more unexcused absences in a calendar month or 10 or more unexcused absences in a 90-day period
  - Excessive unexcused class period absences
  
- **Unethical Behaviors** *including but not limited to:*
  - Use of **Racial Slurs** in verbal, written or electronic form (including but not limited to Social Media, text messages, Airdrop, etc.) on or off school campus
  - **Harassment:** Any threatening, insulting, or dehumanizing gesture, communication (verbal, written, electronic) or physical action directed against a student or school employee
  - **Bullying:** Systematically and repeatedly inflicting physical hurt or psychological distress upon another; includes cyberbullying
  - **Sexual Misconduct**

Infractions will be addressed in accordance with the **Duval County Public Schools' Student Code of Conduct**. In addition, DA will have supplemental measures in place such as Restorative Practices that will be used in an effort to correct the unacceptable behavior and repair broken culture. Please note that certain infractions must be reported to colleges to which the student is applying, both by the student (who must explain the infraction to the college) and by the school.

Those individuals who do not uphold the standards, values, and ethics of Douglas Anderson School of the Arts may face outcomes including but not limited to:

- Arts area probation for the semester
- Referral to school counselor and/or special programs
- Referral to the Attendance Intervention Team (AIT)
- Exclusion from membership in any honor society
- Exclusion from leadership roles (e.g., Student Government, P/R Class, Issue-Based Theatre, etc.)
- Exclusion from representing the school through participation in:
  - On-campus performances (e.g., concerts) or activities (e.g., Guest Artist, Master Class)
  - Off-campus performances (e.g., Extravaganza) or other field trips (e.g, GradBash)
- Inability to be recommended to a college/university