AP Calculus BC Instructional Plan:

Course Overview

This year-long, college-level mathematics course introduces students to both first- and second-semester college calculus in a single year. No prior AP Calculus AB course is required—AP Calculus BC includes the full scope of AB topics plus additional advanced concepts. Students will build their understanding of limits, derivatives, integrals, and the Fundamental Theorem of Calculus before progressing to more advanced topics such as parametric, polar, and vector-valued functions; polynomial approximations; and infinite series.

Throughout the course, students will learn to represent problems and solutions graphically, numerically, analytically, and verbally. They will apply calculus concepts to real-world and theoretical problems, develop mathematical models, and make strategic use of technology for exploration and analysis.

The course emphasizes deep conceptual understanding, procedural fluency, and clear communication of reasoning—skills essential for success on the AP Calculus BC Exam and in future STEM coursework. Students will engage in independent and collaborative work, problem-solving investigations, and real-world applications that connect mathematics to science, engineering, and economics.

Contact Information

Teacher Name: Margaret Kendrick
Email: margaret.kendrick@midlandisd.net
Phone:

Classroom Expectations

The classroom is a respectful, safe, and collaborative learning environment where students are expected to be prepared, participate actively, and respect others. The goal is academic success and personal growth for all.

Core Expectations

1. **Be Prepared** – Bring required supplies, attend regularly, and be ready to learn.
2. **Participate & Take Responsibility** – Complete assignments on time, engage in discussions, and contribute to learning.
3. **Respect the Learning Environment** – Follow behavior guidelines and report problems appropriately.

Behavior & Consequences

Positive reinforcement and routines support success. If expectations aren't met, the process is: reteach → redirect → parent contact → office referral. Students are expected to act with maturity and respect, as if preparing for college.

Materials

3 ring binder, Loose-leaf paper, pencils/pens, Chromebook

Assignments & Schedule

Six-week calendars outline assignments, though dates may change. Students must check posted or online updates.

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Tutoring

Available mornings, during lunch, and afternoons on specified days. Exact dates will be posted on Class Dojo and Google Classroom. Students are responsible for seeking help when needed.

Attendance Policy & Its Importance

Regular attendance is critical. AP Calculus BC builds cumulatively, and missed lessons are difficult to replicate through make-up work alone. The Midland ISD grading policy will be followed for late or missing assignments.

Learning Objectives

By the end of the first semester, students will be able to:

- Engage consistently with the **Mathematical Practices** outlined in the CED, including:
    1. Implementing Mathematical Processes
    2. Connecting Representations
    3. Justification
    4. Communication and Notation
- Master ten core content units
- Develop proficiency across "Big Ideas" that span the entire curriculum: Change, Limits, and Analysis of Functions—across units in a spiraled manner
- Dedicate at least **25% of instructional time** to hands-on work—problem-solving tasks, modeling, and technology-rich activities—reinforcing understanding through application and reasoning

Semester 1	Semester 2
Unit 1: Limits & Continuity (~2 weeks) **Unit 2:** Differentiation: Definition & Properties (2–3 weeks) **Unit 3:** Composite/Implicit/Inverse Differentiation (2 weeks) **Unit 4:** Contextual Applications of Differentiation (2 weeks) **Unit 5:** Analytical Applications of Differentiation (2–3 weeks) **Unit 6:** Integration & Accumulation of Change (~3 weeks)	**Unit 7:** Differential Equations (2–3 weeks) **Unit 8:** Applications of Integration (3–4 weeks) **Unit 9:** Parametric, Polar, Vector Functions (~3 weeks) **Unit 10:** Infinite Sequences & Series (4–5 weeks)

Course Resources

- Chromebook (provided by Midland ISD)
- MISD-provided instructional materials (Course approved textbooks, etc.)
- AP Classroom and AP instructional Materials
- Online resources such as physicsclassroom, Phet Labs, etc.

Grading Policy

Major assignments - 60% Minor assignments - 40%

Semester exams count as 15% toward the final semester grade

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According to Midland ISD Grading Policy:

The summative evaluation of a student's grade during a recording period should be based on sufficient data collected in class in the form of various assessments. Regular and periodic assessment of student progress ensures a student has ample time for remediation.

Students must receive feedback on every graded assignment within three to seven days. Major assignments will receive feedback within ten days. Teachers will, at a minimum, communicate with students and their guardians every ten school days regarding upcoming assessments, classroom reminders, learning topics covered in class, and/or expectations. Regular communication may be electronic through the adopted Student Information System or other messaging applications. Teachers will maintain a parent communication log during each grading cycle.

Please feel free to reach out with any questions or concerns. We are excited to work together to make this a successful year of learning!

Please fill out the portion below and return this portion to your teacher.

We acknowledge that we have read and that we understand the expectations of 11th Grade US History. We agree to contact the teacher should we have any questions or concerns regarding this instructional plan.

Parent Name: _____

Student Name: _____

Cell Phone Number: _____

E-Mail: _____

Parent Signature : _____

Student Signature: _____

Date:_____