Welcome to La Cueva High School! My name is Kimberly Conell and I will be your son or daughter’s Calculus AB teacher. I have a bachelor’s degree in Electrical Engineering, and a Master’s degree in Secondary Education. I worked in the engineering field for several years designing and developing computer and communication systems before my children were born at which time I elected to be a full-time mother. My practical experience applying math to real life situations enables me to demonstrate to students the real-life applications and importance of math as building block to understanding the world around us.

I firmly believe that every student has the right to learn in a positive environment with minimal disruptions, therefore, I expect students to come to class prepared to learn, and ready to respect themselves and others around them. My classroom management plan is based on a partnership approach between parents, students, administration, and myself. I follow the school discipline policy which may be found in the student handbook.

I look forward to a year of learning, growing, and getting to know both you and your students. If you have any concerns or questions do not hesitate to contact me. My door is always open and I appreciate parent involvement and recognize that parents are the best motivators for student success.

**Course description:** The curriculum for AP Calculus AB is based on the goals and curriculum guidelines set by the College Board Advanced Placement Program. In AP Calculus AB, the student studies limits, differentiation, and definite and indefinite integration of functions and relations. The student develops ideas from analysis throughout AP Calculus AB. The course prepares the student for the AB level Advanced Placement Exam in Calculus and as a result includes an extensive review of relevant topics. This course follows Honors Algebra II in the Honors/Advanced Placement Program in mathematics and earns a weighted grade.

**Estimated curriculum topic outline.** *(Subject to change based on student performance levels.)*

**Semester 1 (18 weeks)**

Unit one. Limits and their properties. (3 weeks)
- Finding Limits Graphically and Numerically
- Evaluating Limits Analytically
- Continuity and One-Sided Limits
- Infinite Limits
- Limits at Infinity
- Review and Assessment

Unit two. Differentiation. (4 weeks)
- The derivative and the tangent line problem.
- Basic Differentiation Rules and Rates of change.
- Product and Quotient Rules and Higher-order derivatives
- The chain rule
- Implicit differentiation
- Related rates
• Review and Assessment

Unit three. Application of differentiation. (5 weeks)
• Extrema on an interval
• Rolle’s Theorem and the mean value theorem
• Increasing and decreasing functions and the first derivative test
• Concavity and the second derivative test
• A summary of curve sketching
• Optimization problems
• Differentials
• Review and Assessment

Unit four. Integration. (5 weeks)
• Antiderivatives and indefinite integration
• Area
• Riemann Sums and definite integrals
• The fundamental theorem of calculus
• Integration by substitution
• Numerical integration
• Review and Assessment

Semester 1 Final exam review (1 week)

Semester 2 (18 weeks)
Unit five. Logarithmic, Exponential, and other Transcendental Functions (4 weeks)
• The natural logarithmic function: Differentiation
• The natural logarithmic function: Integration
• Inverse functions
• Exponential functions: Differentiation and integration
• Bases other than e and applications
• Inverse trigonometric functions: differentiation
• Inverse trigonometric functions: integration
• Review and Assessment

Unit six. Differential Equations. (4 weeks)
• Slope fields and Euler’s Method
• Differential equations: growth and decay
• Separation of variables ad the logistic equation
• Review and Assessment

Unit seven. Application of Integration (6 weeks)
• Area of a region between two curves
• Volume: the disk/washer method
• Volume: the shell method
• Review and Assessment

AP EXAM/Semester 2 Final exam review (4 weeks)

Class Expectations:
• Be Prompt
• Be Prepared
• Be Polite
• Be Positive
• Attendance is a very important factor for student success in this class. Important instruction is provided during class and when a student is not present, his/her chance of being successful is reduced. La Cueva attendance policies will be followed in this class.

• Students are considered tardy if they are not seated with class materials ready when the tardy bell rings.

• Completing all assignments on time is necessary for student learning and success. Late assignments are not accepted unless a student has been absent. Absent work must clearly be labeled as absent work.

• If a student is absent from class, assignments are posted in google classroom. It is the student’s responsibility to record the assignment and turn the assignment in for a grade in a timely manner.

• Cheating is putting down answers that are not yours. This includes but is not limited to: copying someone’s assignments, copying answers from the internet, and/or letting someone else copy your work. Students will receive a grade of 0 for cheating and an academic referral for academic dishonesty.

• Free tutoring is available every Wednesday after school in the classroom or by appointment. Students must bring their book and specific questions to tutoring.

• Electronic devices are not permitted during instructional time and will be confiscated and returned to the student at the end of class. If electronic devices are repeatedly used inappropriately in the classroom the devices will be turned into the office for parent pick up.

• Grooming should be done outside of the classroom. Articles used for grooming during class time will be confiscated and returned at the end of class.

• No gum, no food, no drinks (except water) allowed in the classroom.

**TI NspireCX or another suitable graphing calculator required.**

**Grading Policy:**

Six, twelve, and eighteen weeks’ grades are determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter Exams/Projects</td>
<td>70%</td>
</tr>
<tr>
<td>Homework/Classwork</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20%</td>
</tr>
</tbody>
</table>

Student grades are cumulative. The final semester grade is calculated using the 18 week grade weighted at 80% and the final semester exam weighted at 20%.

Parents are encouraged to use Synergy to track their student’s daily academic progress.

**Grading Scale:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90-100</td>
</tr>
<tr>
<td>B</td>
<td>80-89</td>
</tr>
<tr>
<td>C</td>
<td>70-79</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>&lt;60</td>
</tr>
</tbody>
</table>
Updated grades are posted and graphed by students in the classroom every Monday to track academic progress. Parents/students may request grades at any time.

MARK YOUR CALENDARS

AP CALCULUS AB EXAM

Tuesday May 14
I have read the syllabus for AP Calculus AB and understand all of the requirements and expectations contained in the document.

Parent/Guardian (please print)_____________________________________________________

Parent/Guardian (signature)_____________________________________________________

Email address:______________________________________________________________

STUDENT SIGNATURE:

I have read the syllabus for AP Calculus AB and understand all of the requirements and expectations contained in the document.

Student Name (please print)_____________________________________________________

Student Signature______________________________________________________________