Commitment to Excellence in Everything We Do: Academics, Activities and Citizenship

Welcome to Ms. Earley's Class: AP Calculus AB

Course syllabi and Classroom Policies and Procedures
2013-2014

Goals

Students should be able to:

- Work with functions represented in a variety of ways numerical, graphical, analytical or verbal and being able to see the connection between these representations.
- Understand the meaning of derivatives as rates of change and local linear approximation.
- Understand the meaning of definite integral as net accumulation of change and Riemann sums.
- Understand the Fundamental Theorem of Calculus and see the connection between derivatives and the definite integral.
- Use technology to help solve problems, verify conclusions and interpret results.
- Explain and communicate results orally and in written sentences, making sure the answers to their problems are reasonable and include units of measurement.
- Model physical situations with functions, integrals or differential equations.

Course Content

Chapters	Topics	Mathematical Practice
Chapter 1 *Quarter 1*	• Functions and their representation • A catalog of essential Functions • The Limit of a function • Calculating Limits using Algebra and estimating limits from graphs and tables. • Continuity • Limits involving infinity. Intermediate Value Theorem and Extreme Value Theorem.	Make sense of problems and persevere in solving them. Reason abstractly and quantitatively. Construct viable arguments and critique the reasoning of others.
Chapter 2 *Quarter 1*	• Derivatives and Rate of Change • The Derivative as a Function • Basic Differentiation Formulas • The Product and Quotient rule • The Chain rule • Implicit Differentiation	
Chapter 3 *Quarter 2*	• Exponential Functions • Inverse Functions and Logarithms • Exponential Growth and Decay • Inverse Trigonometric Functions • Indeterminate forms • Derivatives of Logarithmic Functions	Model with mathematics. Use appropriate tools strategically.

			Attend to precision.
Chapter 4 *Quarter 2*	• Maximum and Minimum Values • The Mean Value Theorem. The Extreme Value Theorem. • Derivatives and the shapes of graphs • Curve sketching • Optimization Problems • Related Rates • Optimization Problems		Look for and make use of structure. Look for and express regularity in repeated reasoning.
Chapter 5 *Quarter 3*	• Are The Definite Integral as and distances. • Riemann sums • The Definite Integral • Evaluating Definite integrals • The Fundamental Theorem of Calculus • Average value of a Function • Mean Value Theorem • The Substitution rule		
Chapter 7 *Quarter 3*	• Areas between curves • Volumes of Solids of Revolution • Differential Equations. Slope fields		
Chapter 6 *Quarter 4*	After the AP exam : • Integration by parts • Partial fractions		

Classroom Management Plan

Commitment to excellence in everything we do: academics, activities and citizenship.

Text	*Single Variable Essential Calculus, Early Transcendental*, first edition,James Stewart, Thomson/Brooks/Cole,2007 *Calculus: graphical,Numerical, Algebraic* , Finney Demana third edition 2010
Attendance	You are expected to be in class every day. If you miss any assignment while you were absent, it is your responsibility to make it up in a reasonable amount of time (e.g., 2 days for 1 absence). **If absent during a Test, you should report to my office to take it on the day of your return at 7:15 a.m. Your absence has to be justified.**
Tardy	You will be considered Tardy 4 minutes after the start of each class period.
Homework	**Homework has to be done on a daily basis** and it will require a **minimum** of 1 hour. The more you practice, the better you get at it. Homework will be checked every day and counts for 15% of your final grade. Homework is graded daily on the number of problems completed. A student earns full credit for showing work on all the problems. Students,

	who do not try all the problems, receive partial credit. No late homework will be accepted, unless the student has a justified absence. Collected homework will count as a Quiz grade.
Tests/ Home Assignments	There are 3 to 4 tests/home assignments each marking period. They count as 35% of your final grade.
Quizzes	Quizzes account for 25% of the final grade. You may expect ,at least one Quiz a week. They are similar to the multiple-choice questions that are on the AP Exam. The questions are usually related to the topics being taught, but may include review topics. If a student misses a quiz **he/she should report to my office to take it on the day of the return at 7:15 a.m. Your absence has to be justified.**
Quarterly Assessment	This exam is 25% of your final grade and it will cover material from the entire quarter. It may also contain material from past quarters.
Extra Help	I am available before school at 7:15 am every day, and also after school.

You will be expected to complete academic work both independently and cooperatively in a productive manner

Other Pertinent materials: Notebook, folder or binder for worksheets (you will receive **numerous** worksheets as supplements to the text), pencil, graphing calculator required
The math department recommends TI-84 or TI-89 for this course.

- **What to bring to class:** Students are expected to bring to each class a notebook, a pencil, a calculator an agenda book, and an ID badge.

Final Note:
The rules and regulations outlined in the *Lowell High School Handbook* are taken very seriously in this classroom. In particular, the following should be noted:

- Your ID badge must be visible at all times- do not enter the room without it prominently displayed. Do not take it off once the class has begun.
- Hats, Headbands, bandannas are not allowed in class and must not be visible.
- Cell phones and other electronic devices should be out of sight and turned off inside the classroom.

Academic Dishonesty/Plagiarism and Cheating
- The willful giving or receiving of an unauthorized text, unfair, dishonest, or unscrupulous advantage in academic work over other students using fraud, duress, deception, theft, trickery, talking, signs, gestures, text messaging, copying, or any other methodology will not be tolerated. Any student participating in any of the above behaviors will be referred to their housemaster and will be issued a 0 for any assignment(s) pertaining to these behaviors.
- **Plagiarism** is the submission or presentation of another person's work, language, thoughts, ideas, or expressions as your own original work. This includes all information downloaded from the internet. Any student who submits plagiarized work will be referred to their housemaster and will be given a 0 for the assignment.

I am looking forward to working with you this school year. It is my hope that you will learn a lot from the work that we do.

Assignments will be posted on the website www.lhscalcabearley.weebly.com

Please sign and return this entire page by September, 2013

Dear Parents/Guardians and Students,

WELCOME BACK! I am delighted to be your child's AP Calculus AB teacher during this important academic year. I will work hard to provide students with opportunities to improve their mathematical and critical thinking skills.

I have reviewed the course information and expectations with the students. However, knowing the benefits of strong home-school communication, I would appreciate your acknowledgement that you have also read and reviewed this packet of information with your child.

I look forward to working with your child and meeting you at the upcoming Parent's night in November. If you have any questions or concerns, please contact me at any time. My email is
kearley@lowell.k12.ma.us
Phone number: 978 446 7311

Respectfully Yours,

Ms. Krista Earley

I have read and reviewed the class rules, course goals and requirements with my child and I understand the expectations in AP Calculus AB class this year.

Parent/Guardian's Name (please print) _____

Parent/Guardian's Signature _____

Parent/Guardian email (optional) _____

I have read and reviewed the class rules, course goals and requirements, and I understand the expectations in AP Calculus AB class this year.

Student Name (please print) _____

Student's Signature _____

Student's email (optional)_____