**Pierce County High School**

**Coastal Pines Technical College**

**12th Grade--MATH 1131--Calculus**

**Course Syllabus – Spring 2018**

**Instructor:**  Becky King Email: rebeccaking@pierce.k12.ga.us

 Phone: (912) 449-2055

**Hours on Campus**: 7:00AM-4:00PM MTWRF

 Planning: None

I will be available for students to receive extra help 7:30-7:50AM and 3:30-4:00PM daily. Let me know ahead of time, if possible.

**Course Description:** Topics include the study of limits and continuity, derivatives, and integrals of functions of one variable. Applications are incorporated from a variety of disciplines. Algebraic, trigonometric, exponential, and logarithmic functions are studied.

**Pre-requisites:**  Math 1113 with a grade of C or better

**Course Credit:** 4 Semester Credit Hours

**Contact Hours:** 4 hours lecture = 4 Total Contact Hours

**Class Schedule: MTWR Block 1**

**Materials:** Notebook, pencils, and an eraser. A MyMathLab access code is required. Coastal Pines will provide each student with a code. You will need a TI-83, TI-83+or TI-84 graphing calculator for this course. No other calculators will be allowed. You **may not** use your cell phone as a calculator.

**Required Textbook:** *Calculus: Early Transcendentals* Varberg, Purcell, Rigdon.

ISBN: 0131875337 (a la carte with MyMathLab access code)

**Course ID #** (for MyMathLab): **king31155**

**Competencies:**

* Calculate limits of functions
* Understand the definition of continuity
* Differentiate algebraic, trigonometric, exponential, and logarithmic functions
* Apply the chain rule
* Perform implicit differentiation
* Calculate higher derivatives
* Solve related rate problems
* Understand the Mean Value Theorem
* Apply the First Derivative Test
* Apply the Second Derivative Test
* Determine the critical numbers and points of inflection
* Solve optimization problems
* Find the most general antiderivative of a function
* Understand and use sigma notation
* Calculate the area using the limiting value of approximating polygons
* Understand the definition of definite integral
* Apply the properties of definite integrals
* Apply both parts of the Fundamental Theorem of Calculus
* Apply the Substitution Rule for integrals
* Calculate the area between two give curves on a plane
* Calculate volume using the disk method and method of cylindrical shells

**Learning Outcomes:**

* A student exiting MATH 1131 will be able to calculate derivatives and apply to a variety of disciplines and apply the properties of integrals.

**Course Outline:**

 Chapter 1 Preliminaries (covered in Math 1111 & 1113)

 Chapter 2 Limits

 Chapter 3 The Derivative

 Chapter 4 Applications of Derivatives

 Chapter 5 The Definite Integral

 Chapter 6 Applications of the Integral

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**Classroom procedures:**

1. Cell phones: See policy in student handbook.
2. Respect the rights of others to be in class and learn. In particular, conversations during the instructor’s lectures are distracting and hinder learning. You will be warned only once, and if it occurs again, your parent(s) will be contacted.
3. The instructor will take daily attendance for the class.
4. **IT IS THE STUDENT’S RESPONSIBILITY TO KEEP UP WITH THE WEEKLY CLASS SCHEDULE.** If a student misses a class, it is his/her responsibility to find out what was covered and what assignments may be due for the time missed. Students are responsible for what is said in class or listed on the syllabus, regardless of presence or absence. It is each student’s responsibility to complete class assignments and prepare for tests in a timely fashion so that he/she can meet stated deadlines and due dates.
5. Students are expected to keep a notebook in which they maintain handouts and other materials pertinent to class. Once a handout or other resource has been provided to a student, he/she is expected to be able to retrieve that information upon request.
6. Successful completion of this course is based upon demonstration of mastery of the major competencies outlined for the class. Each class will involve sessions of lecture and opportunities to practice the content covered in each class.
7. You must have a signed agenda to leave class for any reason. You will be allowed to use a signed hall pass to leave this class a **maximum of three times** during this semester.

**Student Attendance Requirements:** You may not miss more than **10%** of class meetings to meet the attendance requirements of Coastal Pines Technical College. You must also meet the attendance requirements of Pierce County High School. See Pierce County High Student Handbook.

A student who is tardy more than fifteen minutes (15 minutes) will be considered absent for that class period. Students who leave the classroom or lab fifteen minutes (15 minutes) prior to the scheduled end of class or lab will be considered absent for that class or lab period.

**Student Evaluation and Academic Grading:**

**Course Grading Grading Scale**

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| --- | --- |
| 90 – 100% | A |
| 80 – 89% | B |
| 70 – 79% | C |
| 60 – 69% | D |
| 0 – 59% | F |

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| --- | --- |
| Categories | Weights |
| Unit tests | 50% |
| Class/Homework/Quizzes Midterm | 20%10% |
| Final Exam | 20% |

**Daily Grades**

Daily grades consist of homework, assignments done in class, MyMathLab assignments, and quizzes. Most homework is graded the class period after it is assigned. Daily grades will count 20% of your grade. MyMathLab homework will be **required** also. Each homework problem in MyMathLab has unlimited attempts for each problem. Remember, practice makes perfect.

**Extra Credit: *Extra credit is not given in this class.***

Pierce County High School policy allows for up to 5 points to be added to your PCHS average for dual enrollment courses.

**Unit Tests**

Each unit test is a proctored, in-class test. You are expected to show your work and write all necessary steps in the completion of the problems**.** Remember **NO WORK=NO CREDIT**!!! Tests count 50% of your grade. If you miss a test, please let your instructor know immediately. You will be allowed to make up a test if you were on a school related trip or if you have a doctor’s excuse. You will need to make arrangements outside of class time to take that test within three days of the absence.

**Midterm Exam**

The final exam will be a paper and pencil test. The midterm will be a comprehensive exam with 20-25 questions. You may use a calculator for this exam. The exam will count 10% of your grade. Ten points will be deducted per day if you miss the midterm and need to make-up the exam.

**Final Exam**

The final exam will be a paper and pencil test. The final exam will be comprehensive exam with 25- 50 questions. You may use a calculator for this exam. The exam will count 20% of your grade. No make-up exams will be allowed for the final exam. The final exam will be given on or before May 2.

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***This syllabus is subject to change. Any changes will be announced in the classroom. Changes will supersede this syllabus.***

**Important Dates:**

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| **Date** | **Event** |
| **Spring Term S2 Begins** | **January 10, 20118** |
| **School Holidays** | **Jan. 15, Feb.19,20, April 2-6** |
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| **Midterm** | **February 27** |
| **Final Exams**  | **May 1-2** |
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**I have read and understand the policies and procedures for Math 1131 outlined in this syllabus.**

**NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 **(Please print)**

**Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Parent/Guardian Signature** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Notebook and Supplies

* 2-3 inch binder
* Pencils for all work
* Dividers (Warm Ups, Notes, Homework, Quizzes)
* Highlighters
* Loose leaf paper
* Ruler
* Graphing Calculator