GRACE CHRISTIAN SCHOOL

**CALCULUS**

Syllabus

Teacher: Jody Smith

School Year: 2020-2021

GRADE: 12 DATE: August 18, 2020

TEXT/RESOURCES:

Calculus Volume I (www.openstax.org)

Khan Academy AP Calculus AB (www.khanacademy.org)

Guided notes generated by Flamingo Math for AP Calculus AB

OVERVIEW:

*Calculus* is designed for the typical two- or three-semester general calculus course, incorporating innovative features to enhance student learning. The book guides students through the core concepts of calculus and helps them understand how those concepts apply to their lives and the world around them. Due to the comprehensive nature of the material, we are offering the book in three volumes for flexibility and efficiency.

*Volume 1* covers functions, limits, derivatives, and integration.

This course is designed for prospective mathematics majors as well as for students whose primary interests are in medicine, physics, business, or the life sciences. Differentiation, Integration, and their applications are the main focus of the course. Applications range from business and economic problems to life and physical science.

MAJOR TOPICS and SKILLS

FIRST QUARTER

1. Limits and Continuity

2. Differentiation - Part One

SECOND QUARTER

1. Differentiation - Part Two

2. Contextual Applications of Derivatives

THIRD QUARTER

1.Applications of Differentiation

2. Integration Part One

FOURTH QUARTER

1. Differential Equations

2.Application of Integration

Grading:

Students in Calculus will generally have one quiz or test per week in addition to assigned homework problems. Quizzes cover 1-3 sections of material and contain open-ended questions. Unit tests frequently include a mix of multiple-choice and open-ended questions. • The marking period grade is determined as follows:

 50% homework and classwork

 25% quizzes/Khan Academy progress

 25% chapter/unit tests

• Homework is graded for completeness on a 0-2 scale:

2 = all problems or Khan Academy assignments attempted- written work is shown

 1 = not all problems attempted OR work is incompletely shown

 0 = assignment not turned in

Assignments will be due at the beginning of class if they are to be turned in to the teacher. If they are assigned online (Khan Academy) they will be due by midnight the day they are made “due”. Late assignments receive half credit for the first day and no credit thereafter, unless there is communication with the teacher.

Supplies required for class each day:

• 3-ring binder with extra lined or graph paper

• Supply of pencils, erasers, and a pen for correcting homework

• Graphing calculator

• Supply of graph paper and straight-edge (optional)

Course Policies:

* Khan Academy will be a main source of homework grades this year. This is an honors class and there is an honors system that you will be doing your own work on Khan Academy.
* Do any written homework in pencil and check it at home with a pen. Remember that homework is graded for completeness and your grade depends on your trying all parts of every assigned problem.
* While study groups are strongly encouraged, all graded work that is handed in must be your own.
* Be on time to class and limit absences to those that are absolutely necessary.
* See Mrs. Smith for missed assignments immediately after any absence and prior to any planned absence.
* The graphing calculator enables students to generate graphs and tables quickly and accurately from algebraic functions. The TI-83 and TI-84 will be the model used by the teacher.

Classroom Expectations:

 ***Be Prompt Be Prepared Be Polite***

* no food or drink in the classroom unless provided by the teacher
* Coordinate planned absences in advance
* FACTSIS - assignments will be posted on FACTSIS (formerly RenWeb)
* Google Classroom is where I will share documents, class notes, summary pages, additional videos and resources.

In General, the policies for assignments, late work, make-up work, etc. will be following the GCS Student Handbook.

Office Hours: Please email me if you need anything after the second period. I am in the building for the first two periods, but if you need to make a schedule for help with math, I can work with you. I will be in room 102 before the first period if you need to schedule extra help then.