Junior MTH 175/176 Calculus 1/2

Fall/Spring2013-2014, Moore Lecture, CBGS

Julia Jones, Teacher

Chesapeake Bay Governor's School for Marine and Environmental Science

Course Syllabus

Instructor Contact Information

Name : **Julia Jones**

Email: **JJones@cbgs.k12.va.us**

Phones: **804 333-1306(CBGS) 804 357-4833(personal cell)**

Instructor Availability:

Between 10:30-3:00 M-F

After Home school by appointment M-F

Sat by appointment

Response Time:

You can reach me by e-mail or text to the above personal number. I respond quickly to text messagesbut please put your **course name** and **number** in the subject line in both cases to expedite response.*i.e. Jon Anderson MTH 164 can we meet for tutoring Tue?.* (I do not have full access to either device during the hours of 7:30 to 10:30. I usually respond within 24 hours during the week and 48 on weekends)

Course Description:

MTH 175 - Calculus of One Variable I

Presents differential calculus of one variable including the theory of limits, derivatives, differentials, antiderivatives and applications to algebraic and transcendental functions. Designed for mathematical, physical, and engineering science programs.

MTH 176 - Calculus of One Variable II

Continues the study of integral calculus of one variable including indefinite integral, definite integral and methods of integration with applications to algebraic and transcendental functions. Designed for mathematical, physical, and engineering science programs.

Class Meeting Times:

Blue week –

Tues, Wed, Fri

8:00-9:15

Green week –

Tues 9:15-10:30

Wed 8:00-9:15

Thurs 9:15-10:30

Exam Date:June 3-5 (day to be announced)

Other Dates of Importance:

1st semester:Labor Day Aug 30, Sept 2, Thanksgiving Nov 27-29, Christmas Dec 23-Jan 3

2nd semester: Winter holidays Jan 20, Feb 17, Spring Break April 14-April 25, Memorial Day May 26.

End of Nine weeks: Nov 1, Jan 17, March 21, and June 6

Full Days: Aug 26-29, Nov 26, March 15, May 23

STUDENTS ARE *REQUIRED* TO ATTEND – A Fall field trip and Mar 15th Symposium

******In case of an emergency that affects the meeting schedule for this class or the instructor's availability, information will be announce on the radio and TV. Please sign up for RCC alert because if the college is closed the CBGS classes will be closed**

Course Credit: *3 credits each semester for a total of 6 credits*

Prerequisites:

1st Semester – Placement recommendation for MTH 175 and four units of high school mathematics including Algebra I, Algebra II, Geometry and Trigonometry or equivalent.
2nd Semester - MTH 175

Objectives

As a result of the learning experience in this course, the student should be able to:

Math 175

- Understand Limits, including asymptote and unbounded behavior
- Calculate limits using algebra
- Estimate limits from graphs and data
- Understand one-sided limits
- Understand continuity in terms of limits
- Learn the concept of the derivative—numerically, graphically and analytically
- Understand instantaneous vs average rate of change
- Learn to use tangent lines to a curve at a given point
- Understand speed, velocity and acceleration
- Understand related rates
- Be able to apply differentiation rules
- Understand maxima and minima (global/absolute, local/relative)
- Understand points of inflection
- Learn the characteristics of graphs of f, f',f"' and their relationships to each other
- Be able to analyze curves : increasing/decreasing, concave up/down, notion of monotonicity
- Be able to optimize use of applications

Math 176

- Learn the definition of an antiderivative
- Understand the concept of a Riemann sum and its relationship to integration
- Know the fundamental theorems of calculus
- Be able to use techniques of integration
- Be able to make numerical approximations of definite integrals
- Understand slope fields
- Understand Euler's Method
- Understand separation of variables (direct variations, exponential growth/decay, initial conditions
- Be able to find the area of a region between two curves
- Understand integration as an accumulation process
- Be able to find the volume of a solid of revolution with the disk method
- Be able to find the volume of a solid with known cross sections

Method of Instruction

The course content will be taught primarily through Moore' Pedagogy style where the students will have a series of lectures one day with interactiveself-paced interactive worksheets with ample class time being reserved for student questions and evaluation. Homework will be assigned on a regular basis covering material from the lectures and/or the textbook .Each student is expected to study the assigned material and to work all the assigned homework problems before coming to each class. Your success in the course will depend on it

Instructional Materials

Calculus, 8th ed., R Larson; Houghton Mifflin Publishing, 2006, ISBN 0618503048

Graphing Calculator– A graphing calculator is an essential tool for this course and each student is expected to have one. The TI-83+ or TI-84 (silver edition) model is recommended because that is the model that will be used for demonstrations in class. The TI-92, TI-89 and similar calculators that possess a CAS WILL NOT BE PERMITTED ON TESTS. IF you choose to use a Casio, please understand it will not be covered in class**. We will NOT use a Calculator for simple calculations and they will NOT be allowed.**

Grading and Evaluation /Testing Policy

Supplies: You will want a **3-ring binder (½ - 1 inch) for each semester**. All materials I give you (quizzes, tests, level worksheets, handouts …) will be three-hole punched and need to be kept in your binders. BE ORGANIZED. Your homework done on **loose leaf paper** will have a section in this notebook. The notebooks will be collected at the end of the nine-weeks and possible during the nine-weeks. You will also want a **spiral notebook** for examples given in class. Points will be awarded throughout the year for the following graded assignments: Quizzes & Tests, Projects, Level Worksheets, Participation, and Attitude & Effort. You should keep track of your grades in your Grade Tracker sheet in the front of your notebook binder. At any given time, you can figure out your current grade by dividing all the points you have earned by the total number of possible points.

.

Since mathematics is a process, I will be grading your work as well as the final answer. Therefore, you must show your work. Never leave a question Blank. We will have some take home and some in class test.

A question on a test will be worth total of 4 pts. - you can earn a 0 for a blank, 1 for some work, 2-3 work but not correct or complete, 4 – correct and neat

The following grading scale will be used to determine your final grade:
90-100% A ,80-89% B , 70-79% C , 60-69% D , Below 60% F

Attendance Policy

Students are expected to attend ALL classes. Attendance will be reported to parents on interims and grade repots. In the event of five(5) or more absences in a marking period, a parent conference will be requested.

Other Electronic Devices:

Cell phones need to be off during class and out of sight. Texting will not be allowed during class time. Electronic media players (e.g. PDA, iPod, MP3 players) are not allowed to be used during class time or tests. Students may not use computers (PC, MAC, laptop or handheld) at any time during the class period or tests unless permission is granted by instructor. All other electronic devices not deemed appropriate by the instructor will not be allowed during class time. If a student violates the policy the first time the device will be taken and returned at the end of class and parents will be notified. The second offense will result in the cell phone being help after the second day of school. Additional violations will be sent to the home school as a third offense and actions will be determined by the school policy of cell phone use.

New Honor Policy

Please read the honor policy and understand that it WILL be adhered too.

Please write the pledge on any assignment that will be taken for a grade. ➔ *I pledge that I have neither received nor given assistance on this work.*

Please read the handbook for any additional information

Learning Sequence **Will be handed out at the beginning of each Unit.Please keep in in your notebook before that set of assignments. It will be on colored paper so it will be used as a divider.**