Sophomores

MTH 164, Pre-Calculus 2

Fall/2015, 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
9:00-12:30 Sat by appointment

Response Time:

You can reach me by e-mail or text to the above personal number. I respond quickly to text messages but please put your **course name** and **number** in the subject line in both cases to expedite response.
i.e. Jon Anderson MTH 163 can we meet for tutoring on Jul 3.
(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:

The Pre-Calculus 2 course is taught during the student's fall semester of their junior year. The class will focus heavily on trigonometry, combing skills from both Geometry and Algebra. Topics will include evaluating trigonometric expressions (using both right triangle trigonometry and the unit circle), graphs of trigonometric functions, trigonometric identities, polar and parametric equations and mathematical induction. Upon completion of the course, successfully, students should be prepared for Calculus I (Mth 173)

Class Meeting Times:

Herring
Tuesday 9:15-10:25
Wednesday 9:15-10:25
Friday 9:15-10:25

Other Dates of Importance:

1st Interims: Sept 29
End of Nine weeks: Oct 30, Jan 15

Course Credit: *3 credits*

Prerequisites:

MTH 163-Pre-Calculus I

Objectives

The student will be able to:

1. Solve various types of equations and inequalities, including, but not limited to linear and quadratic.
2. Find the equation of a line and graph it, given various information.
3. Determine if a relation represents a function and find its domain and range from its equation or graph.
4. Test for symmetry both algebraically and graphically.
5. Graph functions, and perform various operations on functions and find its domain.
6. Use a graphing calculator to find the curve of best fit when given real data.
7. Identify polynomials and their zeros.
8. Graph polynomial and quadratic functions and analyze their graphs.
9. Analyze the graph of a rational function.
10. Solve polynomial and rational inequalities.
11. Perform operations with complex numbers.
12. Solve systems of linear equations and inequalities in 2 variables

Method of Instruction

There will be one day a week set aside for explanation/lecture. Homework will be assigned on a regular basis covering material from the lectures and/or the textbook on Mathxlfor school. Each student is expected to complete the assigned material from the previous week by the first day of the next week. A quiz will be given each **Thursday** covering cumulative material for the semester. Your success in the course will depend on preparation, good note taking and completing homework assignments.

Instructional Materials

Precalculus, 4th ed., R. Blitzer; Prentice Hall Publishing, 2010, ISBN 9780321559845 will be used both semesters. The first semester it will be a reference and can be found on Mathxlforschool and a classroom table set will be available in class.

A graphing calculator is an essential tool for this course and each student is expected to have one by 2nd nine weeks. . 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 (computer algebra system) WILL NOT BE PERMITTED ON TESTS. IF you choose to use a Casio, please understand it will not be covered in class. **You may check calculators out in the office. Please remember to return at the end of the school year. We will NOT use a Calculator for simple calculations and they will NOT be allowed first nine weeks as we develop the basic foundation.**

Grading and Evaluation /Testing Policy

You may want a **3-ring binder (½ - 1 inch) for each semester**. BE ORGANIZED. Your homework should be done on Mathxlforschool but you can print them out and place them in your binder if you want. I expect classroom

notes and graded assessments in the binder. It is advised to have a section of additional **loose leaf paper** in this notebook for classroom assignments. Points will be awarded throughout the year for the following graded assignments: Quizzes & Tests, Projects, Worksheets, Participation and Mathxlforschool. There will be 2 test per nine weeks and a quiz each week that is not a test week. We will also have unit projects worth 50 points each This class is on an overall point system. Quizzes are worth 24-28 points each and test is worth 100 points. Extra credit can be earned on Monthly NCTM calendars.

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Since mathematics is a process, I will be grading your work as well as the final answer on both quizzes and test. Therefore, you MUST show your work. Never leave a question Blank. 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 answer, 4 – correct work and answer, it also should be precise 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 reports. In the event of five(5) or more absences in a marking period, a parent conference will be requested. Please see handbook for additional information.

Other Electronic Devices:

Please see hand book.

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 such as a test or project.

➔ ***I pledge that I have neither received nor given assistance on this work.***

Please read the handbook for any additional information

Learning Sequence

1st Semester

Week		Unit in Book
August 31-Sept 3	**Right triangle** **Solving for a side or an angle** **Bearings**	**4.3 ,4.8**
Sept 8-11	**Non right Triangle** **Law of Sine, Law of Cosine**	
Sept 14-18	**Conversion between Degrees and Radians, Reference angles, Co-terminal Angles**	**4.1**
Sept 21-25	**Unit circle (Major Quiz)** **Exact value of Any of the six trig function for 30,60,45 in degrees and radians** **exact Value of any of the six trig functions for any quad angle**	**4.2, 4.4**
Sept 28-Oct 2	**Review/ Test Friday**	
Oct 5-9	**Parent Graphing of Sine and Cosine and periods** **Continue Graphing with transformation for Amplitude, period and shifting**	**4.5. 4.6**
Oct 12-16	**Model Real world periodic (Harmonic Motion)**	**4.8**

Oct 19-23	**Graph trig inverses and identification of domain and range restrictions**	**4.7**
Oct 26- 30	**Review/Test Friday**	
Nov 2-6	**Trig Identities (basic)**	**4.2**
Nov 9-13	**Sum and Difference, Double and Half, Product to sum and Sum to product**	**5.2, 5.3**
Nov 16-20	**Trig Equations**	**5.5**
Nov 23-24	**Review**	
Nov 30-Dec 4	**Test / Basic polar coordinate graphing**	**6.3**
Dec 7- Dec 11	**Basic polar coordinate equations**	**6.4**
Dec 14-Dec 18	**Convert a complex number between rectangle and polar**	**6.5**
Jan 4-Jan 8	**Vectors, Dot Product**	**6.6, 6.7**
Jan 11-Jan 15	**Review/ Test Friday**	