



Pre Calculus Honors Syllabus

<u>Course Information:</u>	<u>My Schedule</u>
Course Title: Pre-Calculus Honors	Fall
Instructor: William Cooper	1st Period: Discrete Mathematics
Email: wkcooper@greenvilleschools.us	2nd Period: Precalculus Honors
Room: B215	3rd Period: Planning
Phone: (864) 355-6618 (voicemail)	4th Period: Precalculus Honors

Course Description:

Pre-Calculus consists of an in-depth study of functions and their graphs. The course will study rational, exponential, logarithmic, and trigonometric functions. Also in this course will be an introduction to Calculus if time allows. The prerequisite to Precalculus is to have passed with an 85% or higher, Algebra II Honors or an equivalent course.

Instructional Philosophy:

To educate students so they can reason and think critically about the world in which they live. As math instructors we encourage our students to become independent learners who are capable of locating, evaluating, processing, producing, and synthesizing information using a wide variety of resources and analysis techniques. Students will experience a variety of instructional strategies including technology, collaborative learning and blended learning. My classroom will be organized in groups of two or four in order to accommodate cooperative student learning. Active participation in learning is expected.

Textbook: Precalculus with Limits-A Graphing Approach, Ron Larson

Required Materials:

- Pencil or Pen
- Notebook with paper
- Graphing Calculator (TI-84)
- Book/Online Book for homework (does not need to be brought to school)
 - Will be posted in Google Classroom

Assessment and Grading Policy:

Categories and corresponding weights are:

60% Tests/Projects (Major Assessments)

30% Quizzes/Projects (Minor Assessments)

10% Classwork/Homework (Minor Assessments)

SC Grading Scale:

A 90-100

B 80-89

C 70-79

D 60-69

F 51-59



Pre Calculus Honors Syllabus

Major Units of Study Outlined:

I. Functions and Their Graphs

1. Lines in the Plane
2. Functions
3. Graphs of Functions
4. Shifting, Reflecting, and Stretching Graphs
5. Combinations of Functions
6. Inverse Functions

II. Rational Functions

1. Quadratic Functions
2. Polynomial Functions of Higher Degree
3. Real Zeros of Polynomial Functions
4. Complex Numbers
5. The Fundamental Theorem of Algebra
6. Rational Functions and Asymptotes
7. Graphs of Rational Functions
8. Quadratic Models

III. Exponential and Logarithmic Functions

1. Exponential functions and Their Graphs
2. Logarithmic Functions and Their Graphs
3. Properties of Logarithms
4. Solving Exponential and Logarithmic Equations
5. Exponential and Logarithmic Models

IV. Trigonometric Functions

1. Radian and Degree Measure
2. Trigonometric Functions: The Unit-Circle
3. Right Triangle Trigonometry
4. Trigonometric Functions of Any Angle
5. Graphs of Sine and Cosine Functions
6. Graphs of Other Trigonometric Functions

**** Syllabus and Pacing Guide are subject to change at teacher discretion ****

7. Inverse Trigonometric Functions

8. Applications and Models

V. Analytic Trigonometry

1. Using Fundamental Identities

2. Verifying Trigonometric Identities

3. Solving Trigonometric Equations

4. Sum and Difference Formulas

5. Multiple-Angle and Product-to-Sum Formulas

VI. Additional Topics in Trigonometry

1. Law of Sines

2. Law of Cosines

3. Vectors in the Plane

4. Trigonometric Form of a Complex Number

VII. Linear Systems and Matrices

1. Solving Systems of Equations

2. Systems of Linear Equations in Two Variables

3. Multivariable Linear Systems

4. Matrices and Systems of Equations

5. Operations with Matrices

6. The Inverse of a Square Matrix

7. The determinant of a Square Matrix

8. Applications of Matrices and Determinants

VIII. Topics in Analytic Geometry

1. Conics: Circles and Parabolas

2. Ellipses

3. Hyperbolas

4. Polar Coordinates

5. Graphs of Polar Equations



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Extra Credit, Makeup Work, Homework, Late Work, and other Classroom Policies as applicable:

- Homework is given several times a week and students will be given one homework grade approximately once per week.
- Tests will be given at the end of each chapter. There will be approximately three/four tests per quarter.
- Extra Credit will not be given on an individual basis.
- Mauldin High's School Late Work Policy will be followed.

Extra Help

Students may come to B215 for extra help before school Tuesdays and Thursdays from 8:00-8:30am and after school Tuesdays - Fridays by appointment.

Behavior Expectations and Consequences:

- Be on time for class.
- Come to class prepared.
- Do not disrupt the learning environment
- Only water is permitted in class.
- No cell phones in class (See the Greenville County Schools Website for additional information)

Consequences:

If the rules are not followed the following steps will be taken:

- 1st offense- warning
- 2nd offense- parent phone call
- 3rd offense- detention
- 4th offense- referral to administrator