

NC Math 3 Course Syllabus

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Recommended Materials:

Three-ring Binder + Loose Leaf Paper or 3-Subject Notebook

Writing Utensils

TI-83 Series or equivalent Graphing Calculator*

*A calculator is an excellent investment in your education and will be an integral part of class and homework assignments and assessments. The TI-83+, TI-84+ or TI-Inspire will meet the calculator requirements for all math and science courses offered at PCHS as well as EOC, NCFE, and SAT testing and many college courses.

Topics Covered:

1. **Statistics:** Understand statistics as a process of making inferences about a population (parameter) based on results from a random sample (statistic).
2. **Functions & Their Inverses:** This unit builds upon students' previous work with modeling functions in Math 1 and Math 2. This unit helps transition from modeling in the real world to more abstract mathematical concepts like polynomial and rational functions. It develops the notion of the inverse function of quadratic, exponential, and linear functions and introduces piecewise-defined and absolute value functions through multiple representations, i.e. graphing, equations, tables, verbal descriptions, etc.
3. **Exponential & Logarithmic Functions:** Following the functions unit, this unit continues to build upon familiarity with exponents and exponential functions and introduces logarithmic functions. Additionally, solving exponential and logarithmic equations involves using algebraic operations students have practiced in Math 1 and Math 2.
4. **Polynomial Functions:** Students will begin by continuing their modeling work, with expressions or functions that represent familiar topics such as perimeter and area, and volume. Students have worked with quadratics in Math 1 and 2, so the model they create for area will be familiar to them. The modeling of volume would introduce a cubic polynomial and present the opportunity to begin exploring polynomials of higher degree more in depth.
5. **Modeling with Geometry:** This unit transitions from polynomial work to geometric concepts that require the use of algebra.
6. **Rational Functions:** This unit is intended to develop students' understanding of rational functions.
7. **Reasoning with Geometry:** This unit transitions into geometric concepts with an emphasis on reasoning, justification, and formalizing proof. Students will extend upon their work with proof in Math 2 focusing on both paragraph and flow proofs. Students are familiar with the properties of parallelograms from middle school and have categorized parallelograms and informally verified parallelogram properties through coordinate geometry in Math 1. Students will prove more theorems about triangles including the centers of triangles.
8. **Trigonometric Functions:** Understand and interpret the key features, uses and limitations of multiple representations of trigonometric functions that model real world periodic behavior.

Final Grade:

The final grade will be calculated as a combination of the student's two nine-week grades and the final exam score weighted in the following fashion:

40% 1st QUARTER

40% 2nd QUARTER

20% FINAL EXAM

Quarter Grade Breakdown:

The quarter grade will be weighted and based on these percentages:

HONORS
60% Major Assessments
30% Minor Assessments
5% Homework / Classwork
5% Student Engagement

ACADEMIC
50% Major Assessments
30% Minor Assessments
15% Homework / Classwork
5% Student Engagement

Major Assessments: You can expect at least one test or cumulative project per unit. Tests will be part short answer and part multiple choice and will cover material from the current unit along with review from previous units. *Test corrections are always strongly encouraged* to earn student engagement points and improve for the final examination

Minor Assessments: You can expect at least one quiz per unit. *Quiz corrections are always strongly encouraged* to earn student engagement points and improve for the unit test or project.

Homework / Classwork: You can expect homework assignments nightly that will be graded for effort. Homework is complete if all problems have been attempted and all work is shown. It is *your responsibility to ask for help* on the questions you are unable to solve on your own or with the help of a tutor/peer. Homework is graded on the 4 point scale (0-40, 1-69, 2-79, 3-89, 4-100).

Student Engagement: Completing content-related activities and getting signatures from your teacher earn this grade. Please see the separate student engagement rubric for suggested activities. If you lose your rubric, you will lose all of your signatures as well so *keep it in a safe place* all semester long.

Remediation:

Students are strongly encouraged to correct *every* test and quiz for student engagement points. Also, because each unit test will include questions from the previous unit, students have the opportunity to replace the previous test grade with the average of the previous test grade and the current grade. This means students should constantly be reviewing material and be sure to *correct every test* in preparation for the next.

Absences:

If you are absent, it is *your responsibility to catch up* on missed assignments. Missed quizzes and tests will be made up on the day you return. Exceptions will be made on a case-by-case basis when discussed with your teacher prior to the absence.

Current Grades:

Grades are *posted regularly online*. Parents and students can access these grades through PowerSchool. Information on how to access this information is available through the main office. If you have any questions regarding your child's grades, please contact the teacher as soon as possible.

Office Hours/Extra Help:

Extra help in mathematics courses will be available during the SMART lunch sessions, these SMART lunch sessions will be held on *Tuesday and Thursday*.

Google Classroom:

We will be using Google Classroom for daily updates regarding assignments, assessments and miscellaneous topics. Students must join the classroom by logging into their student gmail account and using the code **ymtmas**. Because of the importance of the information given in the site, *parents of students without regular internet access should inform the instructor as soon as possible*.