

# Syllabus: NC Math III

## Contact Information

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Room 155

## Class Description

In Math III students get a more advanced study of algebra, geometry, and statistics. The topics include:

- Key features of functions such as intercepts, end behavior, and symmetry.
- Rational functions
- The equations of circles
- Solving problems using volume
- Theorems about geometric figures:
  - Triangles
  - Circles
  - Parallelograms
- Unit Circle trigonometry
- Using sampling to perform statistical experiments

## Required Class Materials

- Graphing calculator
- 3-ring binder
- Pencils
- Colored pencils, pens or highlighters
- Loose lined paper and graph paper

## Grades and Assignments

### Quarterly Grading

- 55% Major Grades: Quarterly Project and Quarterly Exams
- 40% Minor grades: Weekly quizzes, small projects, exit tickets, POL, participation bonuses.
- 5% Homework: Project progress reports, exam formula sheets, regular homework

Each quarterly grade counts for 18.75% of the final grade and the Final Exam counts 25%.

## Final Exam

Starting this year, **Math III is an EOC class.** The final exam grade will be based on the score of this test and OPS achievement level policy will be in force just as it is in Math I.

## Exams

- Like quizzes, except notes are not permitted.
- Students may make a formula sheet.
  - Anything may be written on the front and back of an 8.5 x 11 sheet of paper.
  - Will be turned in with the test for a participation grade.

## Quarterly Projects

There will be a different assignment each quarter. It will be due by the end of the 5th week of each quarter.

Assignments by quarter:

1. Read and Summarize Article
2. Term Paper
3. Game Rules
4. Write-your-own-final

Each will be graded on a separate rubric and I will ask for several progress reports during the course of the quarter to be sure students are on track.

## Quizzes

- The quiz is a formal assessment meant to measure skills and knowledge.
- Maintain VLO during the entire quiz administration.
- Flip papers over when finished.
- Students may use notes and returned assignments on quizzes.
- Students may *not* share information, notes, or calculators.

## Participation Policy

Participation is assessed with the app ClassDojo. Students will be inspected at random during the class period and Dojo Points (DP) will be granted or removed based on the following conditions:

- During lessons, students earn +1 DP if called on to discuss a problem.
- During independent work, students earn +2 DP if all the following conditions are met:
  - Workspace contains all RCM and nothing else.
  - Student is actively engaged in lesson activity.
  - No food, inappropriate drinks, or PDD are present.
  - OTC and AVL does not occur.
- Students may earn DP for participating in extra help sessions at a rate of 10 minutes/DP up to a limit of 5 / day.
- Certain behaviors undermine the learning environment. Therefore, students may lose points for each one present upon inspection.
  - Food, or inappropriate drinks, are visible. (-1)

- Appropriate drinks are ones in a bottle with a screw-on lid (which is present and has no holes), or a reusable, closed cup or bottle.
  - Phone or other PDD visible on desk, or looking at the PDD of another (-2)
  - Doing work for other classes without permission. (-3)

Students and parents may keep track of their DP by making an account on ClassDojo.

DP Bonuses:

- Each individual student will receive a participation grade for reaching certain DP totals during each quarter:
  - 1st: 15, 25, and 35 DP
  - 2nd: 50, 65, and 80 DP
  - 3rd: 100, 120, and 140 DP
  - 4th: 160, 180, and 200 DP
- When the average DP / person in a class period reaches 20, all students may drop one minor grade for the quarter.
- Students may drop another minor grade for each additional 20 DP / person. This will be for the quarter during which this occurs.
  - This policy is restricted by the requirement that each quarterly grade contain at least 6 minor and 2 major grades.

### Retake Policy

Minor assignments may be retaken if the student attends tutoring in order to learn the material required for the assessment.

### Late Work Policy

Late work will only be accepted in the case of permission in writing from the parent or guardian, and only for one week after the due date.

## Behavior and Procedure

For acronyms, consult the Classroom Management Glossary at

[https://cramseyops.weebly.com/uploads/1/0/5/4/105447185/classroom\\_management\\_glossary.pdf](https://cramseyops.weebly.com/uploads/1/0/5/4/105447185/classroom_management_glossary.pdf)

It is crucial that the classroom remain an orderly space where students are free to learn. Students will receive specific instructions in class. Here are some guidelines.

- Bullying or abuse is not acceptable.
- Do not use language that is vulgar, obscene, or could be considered a slur.
- Follow the OPS Honor Code.
- Keep phones put away except in the rare cases that they are needed for an activity.
- Keep food and open drinks put away.
- Sit in assigned seats or with assigned groups.
- Unpack the Required Class Materials when first entering the room.
- Follow instructions concerning movement in the room.

- Do not touch or use the materials or computers stored in the room unless instructed to do so.
- Maintain the given VL for the activity.

Violations will earn reminders, parent contact, detention, or referral as appropriate according to the severity of the violation and number of previous events.

Bathroom Policy:

Students who wish to leave class to use the bathroom or get water should fill out a pass and leave their phone in the classroom. Each student gets a limited number of passes each quarter.

## Schedule

First Semester:

Week Number	Dates	Planned Topics	<b>Quizzes, Projects, and Exams</b> <i>Special Notes</i>
1	August 13-17	Parent Functions; Domain and Range; inverses	<i>Each week is defined as 5 school days, unless noted.</i>
2	August 20-24	Increasing and Decreasing intervals; Local minimum and maximum	<i>Weekly Quizzes will be on a delay so students who were absent have a chance to get help catching up.</i>
3	August 27-31	Intercepts; end behavior	<b>Week 1 Quiz</b>  <i>Each Quiz will be on the first class meetings of the week. For example, this one is on the 27th and 28th.</i>  <i>It will contain material from a previous week or weeks.</i>
4	September 4-10	Odd and even symmetry	<b>Week 2 Quiz</b>
5	September 11-17	Problem solving with functions	<b>Week 3 Quiz</b> <b>Project 1</b> <i>Project due by the end of this week.</i>
6	September 18-24	Exponential growth and decay problems.	<b>Week 4 Quiz</b>
7	September 25-October 1	Logarithm definition; bases of	<b>Week 5 Quiz</b>

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8	October 2-8	Log and exponential graphs, equations	<b>Week 6 Quiz</b>
9	October 9-11	Logarithm properties	<b>Quarter 1 Exam: Weeks 1-6</b> <i>Exams are given on the earliest full class meetings of the given week.</i>  <i>This week is short because it ends the quarter.</i>
10	October 15-19	Continue logarithm properties.	<b>Week 7 Quiz</b>
11	October 22-26	Factoring quadratics, difference of squares, difference of cubes	<b>Week 8 Quiz</b>
12	October 29-November 2	Complex numbers: properties, operations, factoring.	<b>Week 9 Quiz</b>
13	November 5-12	Polynomial long division	<b>Week 10 Quiz</b>
14	November 13-20	Remainder Theorem, Fundamental Theorem of Algebra	<b>Week 11 Quiz</b> <b>Project 2</b> <i>This week is extended because of Thanksgiving Break</i>
15	November 26-30	Cross sections of objects	<b>Week 12 Quiz</b>
16	December 3-7	Equations of circles	<b>Week 13 Quiz</b>
17	December 10-14	Volume and surface area	<b>Week 14 Quiz</b>
18	December 17-19	Operations on rational expressions	<b>Quarter 2 Exam: Weeks 1-14</b>  <i>This week is shortened because of Winter Break</i>

Second Semester:

19	January 3-9	Continue Operations on rational expressions.	<i>Delay for review</i>
20	January 10-16	The graphs of rational functions (including rational function end behavior with division)	<b>Week 15 Quiz</b>
21	January 17-24	Solving rational equations	<b>Week 16 Quiz</b>
22	January 25-31	Review triangle congruence, Theorems about parallelograms	<b>Week 17 Quiz</b>
23	February 1-7	Theorems about circles	<b>Week 18 Quiz Project 3</b>
24	February 8-14	Theorems about triangles	<b>Week 19 Quiz</b>
25	February 15-21	Right triangle trigonometry; special right triangles	<b>Week 20 Quiz</b>
26	February 22-28	The unit circle and sinusoidal functions	<b>Week 21 Quiz</b>
27	March 1-7	Survey, census, and experiment; methods of sampling.	<b>Quarter 3 Exam: Weeks 1-21</b>
28	March 11-18	Modeling a statistical problem with simulation	<b>Week 22-23 Quiz</b>
29	March 19-25	Histograms	<b>Week 24-25 Quiz</b>
30	March 26-April 1	Standard deviation and standard error.	<b>Week 26-27 Quiz</b>
31	April 2-8	Confidence	<b>Week 28-29 Quiz</b>

		intervals	
32	April 9-12	Review	<b>Week 30 Quiz</b> <b>Project 4</b> <i>Shortened to account for Spring Break</i>
33	April 22-26	Review	<b>Week 31 Quiz</b>
34	April 29-May 3	Review	<b>Week 32 Quiz</b>
35	April 6-10	Review	<b>Quarter 4 Exam:</b> <b>Weeks 1-31</b>
36	April 13-22	Review	<i>This is lengthened to include final exams.</i>





