

NC Integrated Math 2 Syllabus

2024

Module 1: Transformations & Symmetry (3 weeks)

Experiment with, understand and create transformations in a plane
Glide vs. stretch
Rigid motion
Translations/Reflections/Rotations
Points to points, line segments to line segments, angles to angles

Module 2: Congruence, Construction & Proof (2 weeks)

CPCTC
SSS, SAS, ASA, AAS, HL

Module 3: Geometric Figures (3.5 weeks)

Prove Angle Sum Theorem
Prove Exterior Angle Theorem
Use theorems to solve problems
Prove, understand and apply the Pythagorean Theorem

Module 4: Dilation & Similarity (5 weeks)

Dilations
Mid-segment theorem and application
Show similarity of two-dimensional shapes using angle congruence and side proportionality
Rotations of two-dimensional figures
Perspective drawings
Special right triangles
Side splitting proportionality
Discover, define and apply trig ratios

Module 5: Quadratic Functions & Transformations (5 weeks)

Function Notation
Domain/Range
Combine and write functions
Operation Closure
Factoring
Various useful forms of quadratics
Multiple representations of quadratics
Critical features and graphing
Effects on graph & tabular representations of functions of $k * f(x)$, $f(x) + k$; $f(x + k)$
Complex numbers

Module 6: Quadratic Equations (5 weeks)

Solve quadratics by graphing, inspection, completing the square, and lastly, by quadratic formula
Write functions
Graphing
Quadratic and Exponential Functions
Equations and Inequalities
Translating and transforming functions
Real & non-real solutions of quadratics
Quadratic linear systems
Quadratic inequalities

Module 7: Variation & Square Root Functions (5 weeks)

Inverse variation and simple rational functions
Viable and non-viable solutions
Domain and range
Notation
Graphs/critical features
Transform functions
Writing equations from graphs
Comparing features (Algebraically, Graphically, Numerically (tables), Verbally)
Interpret functions in context noting extraneous solutions and their meanings

Module 8: Probability (3.5 weeks)

Sample space/Event
Unions and intersections
Venn diagrams
Complements
Addition rule
Two-way frequency tables
Compound events
Independent events
Conditional probability
Joint and Marginal Probabilities
Multiplication Rule
Experimental vs. Theoretical Prob

Link to NC Math 2 standard; may be found [HERE](#).

The final exam is worth 20% of students' grades for the course as required by the district.

8th Grade Standards

These are woven throughout the year. Math 2 students are not subject to the NC EOG for 8th grade if they take the Math 1 EOC or Math 2 course as 8th graders.

Tutoring is available through the parent academy and through other sources that will be shared through Announcements in Canvas. Students may receive extra assistance from the teacher before school with prior notice if there is NOT a test or quiz that day.

Install DESMOS Install the Desmos app on your phone and other devices. You may also use Desmos straight off an internet connection at desmos.com. We will use this graphing calculator frequently. It is free.

Students must create a student Desmos account if they do not already have one. This will be completed in school when devices are issued.

Practice Problems: Students will be assigned practice problems frequently, though perhaps not daily. Those will be checked with peers. In class, we review practice problems for which students have quality questions. Practice problems may reappear on quizzes.

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Parents and students: To receive **periodic text** messages for NWMS Math 2, text @nwmsmathm2 to 81010. Opt out by replying 'unsubscribe @nwmsmathm2'. You may also text to 336-268-8985. Standard text rates apply.

For email notifications, go to rmd.at/nwmsmathm2 to sign up for email notifications. You may also go to remind.com/enroll and use the @nwmsmathm2 class code.

EXPECTED each day in class: Students should only carry supplies needed for class: sharpened pencils; 1 sturdy composition notebook for notes & examples; current unit workbooks. Also expected: Eager learners willing to work and communicate.

GRADING:

The final exam is worth 20% of students' grades for the course.

Quizzes & tests are graded. Homework & classwork are part of the learning process and must be completed and will count for no more than 25% of the quarterly grade.

No extra credit is given in this class. Re-quizzes are possible within one week provided the student gets help with misunderstood concepts. The new grade will be $(2 \times \text{new} + \text{old}) / 3$. No re-quizzing is available for scores $> 89\%$. There is NO re-testing for Unit tests. Tests will comprise at least 50% of the quarterly grade and quizzes will make up at least 25%.

Discipline:

Students are expected to respect themselves & others. Disruptions to the learning environment will not be tolerated. 1st offence-verbal warning; 2nd offence: call home; 3rd offence: official office writeup. Disruptive students are not welcome in tutoring.