NC Integrated Math 2 Syllabus
2023

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 and 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 standards 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 in 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 the 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 most 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 devises are issued.

Practice Problems: Students will be assigned practice problems frequently, though perhaps not daily. Those will be checked with peers. In class, we only 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 & and 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 (2xnew + 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 wrirte up. Disruptive students are not welcome in tutoring.