

**MATHEMATICS 9**  
**COURSE OUTLINE: 2022- 2023**



**TEACHERS:** M. Burns and T. Matchett

**TECHNOLOGY:**

- Microsoft Teams
  - All copies of lessons, homework and assignments will be posted here daily.

**MATERIALS:**

- a scientific calculator (**MUST** have your own, **NO cell phones or tablets during class**)
- a binder with loose-leaf and graph paper for notes, homework, evaluations, etc.
- pencils, erasers and a ruler

**ATTENDANCE:**

Students will be expected to maintain excellent attendance. In the event of an absence, the student is responsible for all worked assigned in Math 9 for the corresponding time missed. If a student is absent from class, they are expected to log into TEAMS, PRIOR to returning to class, and ATTEMPT all lessons and assignments posted for corresponding days missed.

**TOPICS:**

|  |  |
|--|--|
| <b>UNIT 1:</b> Rational Numbers (Chapter 3)              | <b>UNIT 5:</b> Linear Equations and Inequalities (Chapter 6) |
| <b>UNIT 2:</b> Square Roots and Surface Area (Chapter 1) | <b>UNIT 6:</b> Linear Relations (Chapter 4)                  |
| <b>UNIT 3:</b> Powers and Exponents Laws (Chapter 2)     | <b>UNIT 7:</b> Similarity & Transformations (Chapter 7)      |
| <b>UNIT 4:</b> Polynomials (Chapter 5)                   | <b>UNIT 8:</b> Circle Geometry (Chapter 8)                   |
|  | <b>UNIT 9:</b> Probability & Statistics (Chapter 9)          |

\*\*\*\*See Page 2 for the “Required Curriculum Outcomes” for the 2022-2023 school year\*\*\*\*

**EVALUATION:**

Summative Assessments                      70%

Final Assessment                                30%

\* A mark of **60%** is required to receive a passing grade. \*

**MATH HELP CENTRE:**

This year, extra help will be offered to all grade 9 and 10 math students in room 4142.

- *Hours of operation*
  - *Monday, Tuesday, Wednesday & Thursday      12: 25 – 12:55*

## Mathematics 9

The curriculum document can be accessed [here](#) / Le programme d'études est accessible [ici](#).

| Required Outcomes  | Remaining Outcomes   |
|--|--|
| <p><b>N1:</b> Demonstrate an understanding of powers with integral bases (excluding base 0) and whole number exponents by: representing repeated multiplication using powers; using patterns to show that a power with an exponent of zero is equal to one; solving problems involving powers.</p> <p><b>N2:</b> Demonstrate an understanding of operations on powers with integral bases (excluding base 0) and whole number exponents.</p> <p><b>N3:</b> Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.</p> <p><b>N5:</b> Determine the square root of positive rational numbers that are perfect squares.</p> <p><b>PR1:</b> Generalize a pattern arising from a problem-solving context using linear equations and verify by substitution.</p> <p><b>PR2:</b> Graph linear relations, analyze the graph and interpolate or extrapolate to solve problems.</p> <p><b>PR3:</b> Model and solve problems using linear equations, pictorially and symbolically.</p> <p><b>PR6:</b> Model, record and explain the operations of addition and subtraction of polynomial expressions, pictorially and symbolically (limited to polynomials of degree less than or equal to 2).</p> <p><b>PR7:</b> Model, record and explain the operations of multiplication and division of polynomial expressions (limited to polynomials of degree less than or equal to 2) by monomials, pictorially and symbolically.</p> <p><b>SS2:</b> Determine the surface area of composite 3-D objects to solve problems.</p> <p><b>SS3:</b> Demonstrate an understanding of similarity of polygons.</p> <p><b>SS4:</b> Draw and interpret scale diagrams of 2-D shapes.</p> | <p><b>N4:</b> Explain and apply the order of operations, including exponents, with and without technology.</p> <p><b>N6:</b> Determine an approximate square root of positive rational numbers that are non-perfect squares.</p> <p><b>PR4:</b> Explain and illustrate strategies to solve single variable linear inequalities with rational coefficients within a problem-solving context.</p> <p><b>PR5:</b> Demonstrate an understanding of polynomials (limited to polynomials of degree less than or equal to 2).</p> <p><b>SS1:</b> Solve problems and justify the solution strategy using circle properties, including: the perpendicular from the centre of a circle to a chord bisects the chord; the measure of the central angle is equal to twice the measure of the inscribed angle subtended by the same arc; the inscribed angles subtended by the same arc are congruent; a tangent to a circle is perpendicular to the radius at the point of tangency.</p> <p><b>SS5:</b> Demonstrate an understanding of line and rotation symmetry.</p> <p><b>SP1:</b> Describe the effect of: bias; use of language; ethics; cost; time and timing; privacy; cultural sensitivity on the collection of data.</p> <p><b>SP2:</b> Select and defend the choice of using either a population or a sample of a population to answer a question.</p> <p><b>SP3:</b> Construct, label, and interpret histograms to solve problems.</p> <p><b>SP4:</b> Develop and implement a project plan for the collection, display and analysis of data by: formulating a question for investigation; choosing a data collection method that includes social considerations; selecting a population or a sample; collecting the data; displaying the collected data in an appropriate manner drawing conclusions to answer the question.</p> <p><b>SP5:</b> Demonstrate an understanding of the role of probability in society.</p> |