



# CENTENNIAL REGIONAL HIGH SCHOOL

## COURSE OUTLINE 2019-2020

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**Subject:** Mathematics

**Level:** Secondary 2

### Course Content:

- **Arithmetic and Algebra**

- Ratio & rate
- Proportional situations
- Direct or inverse variations
- Ordered pairs in a Cartesian plane
- Representing situations using a graph
- Algebraic expressions (equivalency, numerical evaluation, & manipulation)
- Equalities, equations, & unknowns
- First-degree equations with one unknown ( $ax + b = cx + d$ )

- **Statistics and Probability**

- Random experiment
- Event
- Enumerating possible outcomes
- Theoretical & experimental probability
- Arithmetic mean
- Range
- Population, sample
- Conducting a survey or a census
- Data
- Using various tools to present data (table, graphs, etc.)

- **Geometry**

- Plane figures (Surface area)
- Solids
- Congruent & similar figures
- Circles
- Geometric constructions
- Geometric transformations
- Finding unknown measurements

### Evaluation Methods

Under the Quebec Education Program (QEP), students will be evaluated according to two Mathematical competencies (see chart).

### Term Weighting:

In accordance with the revised QEP, each term will be weighted.

TERM 1: 20%

TERM 2: 20%

TERM 3: 60%

## EVALUATING WITH COMPETENCIES

C1: Solves a Situational Problem 30%	C2: Uses Mathematical Reasoning 70%
<p><i>A situational problem . . .</i></p> <ul style="list-style-type: none"> <li>▪ Has not previously been presented in the learning process</li> <li>▪ Involves using a new combination of rules or principles, that the student may or may not have previously learned, in order to create a solution</li> <li>▪ Has a solution that has not been encountered before</li> </ul> <p><i>The student will . . .</i></p> <ul style="list-style-type: none"> <li>▪ Decode the elements of the problem that can be processed mathematically</li> <li>▪ Represent the problem by using a mathematical model</li> <li>▪ Work out a mathematical solution</li> <li>▪ Validate the solution</li> <li>▪ Share information related to the solution</li> </ul> <p><i>Evaluation Criteria</i></p> <p>CR1 Oral or written indication that the student has an appropriate understanding of the situational problem</p> <p>CR2 Mobilization of mathematical knowledge appropriate to the situational problem</p> <p>CR3 Development of a solution appropriate to the situational problem</p>	<p><i>A reasoning problem . . .</i></p> <ul style="list-style-type: none"> <li>▪ Requires organization &amp; application of mathematical concepts &amp; processes in a clearly defined context</li> <li>▪ Could be one of three different subtypes:               <ul style="list-style-type: none"> <li>- <i>Application</i>: Choose &amp; apply the appropriate mathematical concepts</li> <li>- <i>Validation</i>: Justify a statement, check a result/procedure, take a position, provide a critical assessment or convince using mathematical arguments</li> <li>- <i>Conjecture</i>: Uses inductive reasoning to make a proposition or a conjecture. The goal is to generalize.</li> </ul> </li> </ul> <p><i>The student will . . .</i></p> <ul style="list-style-type: none"> <li>▪ Form &amp; apply networks of mathematical concepts &amp; processes</li> <li>▪ Establish conjectures</li> <li>▪ Construct proofs</li> </ul> <p><i>Evaluation Criteria</i></p> <p>CR3 Proper application of mathematical reasoning suited to the situation</p> <p>CR2 Correct application of concepts and processes suited to the situation</p> <p>CR4 Proper organization of the steps in an appropriate procedure</p> <p>CR5 Correct justification of the steps in an appropriate procedure</p> <p>CR1 Formulation of a conjecture appropriate to the situation</p>