



Secondary 3 Honours Math - (NS 4) 2019-2020

Teacher:	Email:	Phone:
G. Antonecchia (3 Honours)	antonecchiag@loyola.ca	514-486-1101 ext. 640
C. Taddeo (NS4)	taddeoc@loyola.ca	514-486-1101 ext. 631

Online Textbook and Resources: Math-Help-Services (MHS) <http://math-help-services.org>

Websites: <http://moodle.loyola.ca> (contains topic-by-topic information)

Supplies: 2 duotangs and tissue (provided), loose leaf, graph paper, separators, 1½" binder, pencils, eraser, ruler, scientific calculator (non-graphing).

Evaluation: The final grade for the course will be calculated as follows: Term 1 → 20%
Term 2 → 20%
Term 3 → 60%

Competency 1 → 30% = "Solves a Situational Problem"

Competency 2 → 70% = "Uses Mathematical Reasoning"

	Term 1	Term 2	Term 3
Homework/Assignments	5%	5%	5%
Quizzes	15%	15%	15%
Class Tests	50%	50%	50%
Term Situational Problem Evaluations	30%	30%	10%
Loyola Situational Problem Exam (TBD)			20%

****June Exam** → 50% of year **reasoning** mark

**The NS4 Mathematics Final Exam is a provincial exam provided by MEES which will make up 50% of the student's final "Reasoning - C2" competency grade for the course.

Homework/Assignments

Homework is assigned daily. It will be checked regularly, and collected and marked sporadically. It will be assigned through MHs and/or worksheets. MHS grades may be improved by completing remedial assignments.

Review and practice of daily work is an essential part in building and reinforcing understanding. Failure to complete homework will result in loss of marks and/or disciplinary action. **A mark of 0 will be given for any work that has not been completed.**

Quizzes

Quizzes may be given without prior warning to evaluate day-to-day understanding of the material.

Tests

Class tests will be given each term. If a student is absent for any quiz or class test because of an illness or unexpected reasons, **he must make arrangements to write the test on the first day back in school.** Otherwise, the student may receive a grade of 0%.

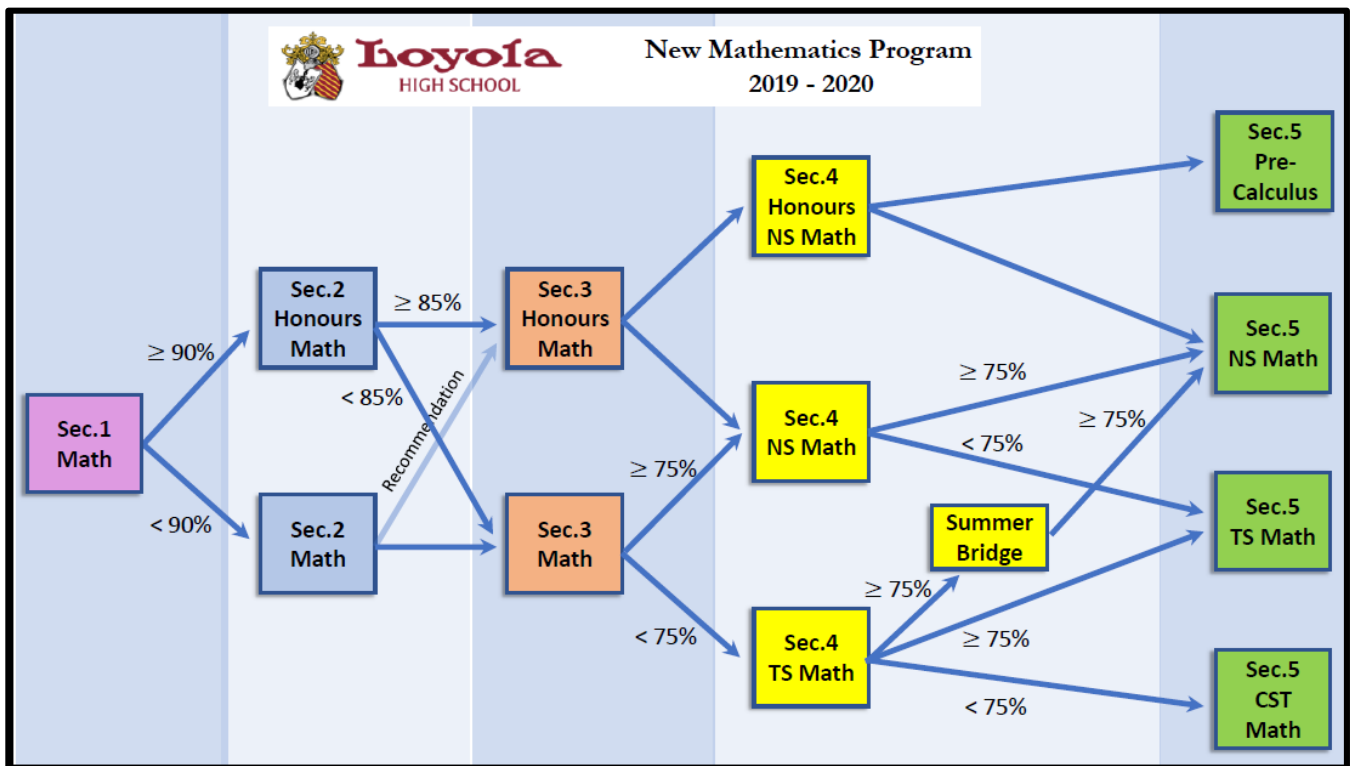
Expectations

The Honors Math student is expected to be able to work at a faster pace and is responsible to stay on top of his understanding. Self-motivation, independence and good work habits are assets in this course. Extra help is available. (The schedule is on Moodle and posted in the classroom.)

All work is to be **done in pencil** and is expected to be clearly labelled and organized.

Advancement

- Students will be able to advance into secondary 4 NS Honours Math (i.e. NS5 Math) based on both the overall course grade after the provincial exam, and teacher recommendation.
- Students who do not meet the secondary 4 NS Honours Math requirements will be asked to follow the NS4 Math stream in grade 10.



COURSE TOPICS

- Algebraic Expressions**
- Exponential Properties
 - Negative Exponents
 - Fractional Exponents
- Polynomial Operations**
- Operations of polynomials,
 - Long Division of Polynomials
- Factoring**
- Greatest common factor, Simple trinomials, Grouping, Complex Trinomials, Difference of squares, Perfect Squares
 - Word problem applications
 - Solving quadratic equations (via factoring and quadratic formula)
 - Rational Expressions (x, ÷, +, -)
- Analytic Geometry and Lines**
- Distance between two points, midpoint, division of a line segment
 - Distance from a point to a line.
 - Parallel and perpendicular lines and intercepts
 - Equation of lines (standard, symmetric and general)
 - Single variable inequalities (number line and interval)
 - Two-variable linear inequalities (half plane)
 - Conjecture questions
- Statistical Analysis**
- Measures of central tendency, (mean, median, mode, weighted mean)
 - Regression line, linear correlation, correlation coefficient
- Trigonometry**
- Special right triangles
 - The mean proportional
 - Right triangle ratios: sine, cosine, tangent
 - Sine law, Cosine law, Hero's formula
- Triangles**
- Angles and parallel lines
 - Congruency and Similarity
 - Volume of solids
 - Similar Figures (Ratios of sides, areas and volumes)
 - Metric Relations in a right angle triangle
- Functions**
- Function definition and notation
 - Definitions, characteristics, modes of representation/function notation
 - Properties and parameters: domain, range, intercepts, increase/decrease, extremes, sign, symmetry
 - Inverse of a function
 - Linear and Quadratic functions applications and interpretation (general, standard and symmetric form)
 - Greatest Integer Function (i.e. Step), parameters, manipulation and interpretation.
- Systems of Equations**
- Solving a System of 1st degree equation in two variables using algebraic solutions; Comparison, Elimination, Substitution
 - Special cases: parallel, coincident, broken lines
 - Solving a Semi-Linear System (i.e. Linear and Quadratic equations)