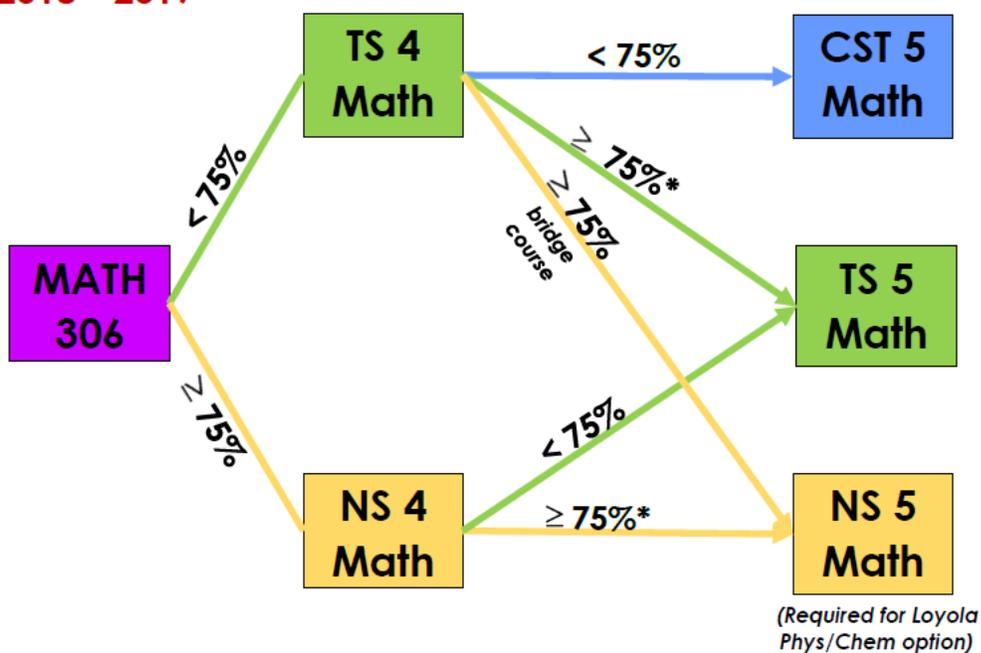




## Advancement

Students with an overall grade of 75% or greater (including the provincial exam results) in the TS4 course will be eligible to take TS5 Math next year. Students who do not obtain this minimum grade in the course will automatically be placed in CST 5 Math unless they enroll into summer school. If a student achieves a grade 75% or greater in TS4, he will also be permitted to take an NS4 math bridge course over the summer. If a mark of 75% or greater is then achieved in NS4, he may then move into the NS5 math course in secondary five.

### Senior Math Options 2018 – 2019



\* TS4 and NS4 students achieving a final grade that does not meet the respective sec 5 course requirement, must attend summer school and write the MEES July supplemental exam. The minimum mark prerequisite must be achieved in order to remain in the same course stream the following year.

## COURSE TOPICS

<b>Algebraic Expressions</b>	-Exponential expressions, Operations of polynomials,
<b>Factoring</b>	-Greatest common factor -Simple trinomials -Grouping -Complex Trinomials -Difference of squares -Perfect Squares -Solving quadratic equations -Rational Expressions (x, ÷, +, - )
<b>Functions</b>	-Definitions, characteristics, modes of representation/function notation -Properties: domain, range, intercepts, increase/decrease, extremes, sign of function, symmetry -Inverse of a function -Linear function applications and interpretation $y = ax + b$ -Graphing Linear Inequalities (half plane)/(single inequation)
<b>Polynomial Functions</b>	-Linear function $y = ax + b$ -Quadratic function $y = ax^2$ -Square root function $y = \sqrt{bx}$ -Exponential function $y = a(c)^{bx}$ -Logarithmic function $y = a \log_c b(x)$ -Piece-wise function $y = \begin{cases} 3x + 1 \\ 2x^2 \end{cases}$ -Greatest Integer function (i.e. step) $y = a \lfloor bx \rfloor + k$ -Periodic function
<b>Analytic Geometry and Lines</b>	-Distance midpoint, slope, division of a line segment -Parallel and perpendicular lines -Equation of lines, intercepts, -Linear inequalities (half plane)
<b>Systems of Equations</b>	-Graphs and tables -Algebraic solutions: Comparison, Elimination, Substitution -Special cases: parallel, coincident, broken lines
<b>Trigonometry/Triangles</b>	-The mean proportional -Right triangle ratios: sine, cosine, tangent -Finding the height of a triangle -Sine law, Cosine law, Hero's formula -Angles and triangles -Similar triangles -Metric Relations in a right angle triangle
<b>Probability</b>	-Theoretical and Experimental Probability -Fairness, Odds (for and against) -Mathematical expectation -Venn diagrams (2 and 3 rings) -Subject Probability /Conditional Probability
<b>Statistical Analysis</b>	-Measures of central tendency, (mean, median, mode, weighted mean) -Tables and Graphs (Scatter Plots) -Regression line, linear correlation, correlation coefficient -Investigating Outliers, Bias -Statistical measure: Mean Deviation, Standard Deviation