**Pre – Calculus 20**

**Course Outline**

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| **Chapter** | **Outcomes** | **Time Line**(Approximate) |
| Chapter 1Sequences and Series | [P20.10](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=110&XML=Pre-calculus_20.xml) Demonstrate understanding of arithmetic and geometric (finite and infinite) sequences and series. [CN, PS, R, T] | 15 |
| Chapter 2Trigonometry |  [P20.4](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=14&XML=Pre-calculus_20.xml) Expand and demonstrate understanding of the primary trigonometric ratios including the use of reference angles (0° ≤ θ ≤ 360°) and the determination of exact values for trigonometric ratios. [C,ME,PS,R,T,V] **(2.1 & 2.2)** [P20.5](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=15&XML=Pre-calculus_20.xml) Demonstrate understanding of the cosine law and sine law, including the ambiguous case. [C, CN, PS, R, T] **(2.3 & 2.4)** | 12 |
| Chapter 3Quadratic Function | [P20.7](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=17&XML=Pre-calculus_20.xml) Demonstrate understanding of quadratic functions of the form   y=ax²+bx+c and of their graphs, including: * vertex
* domain and range
* direction of opening
* axis of symmetry
* x- and y-intercepts. [CN, PS, R, T, V]
 | 10 |
| Chapter 4Quadratic Equations | [P20.6](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=16&XML=Pre-calculus_20.xml) Expand and demonstrate understanding of factoring polynomial expressions including those of the form: * a²x² - b²y², a ≠ 0, b ≠ 0
* a(f(x))² - b(f(x)) + c, a ≠ 0
* a²(f(x))² - b²(g(y))², a ≠ 0, b ≠ 0

where a, b, and c are rational numbers. [CN, ME, R]   | 14 |
| Chapter 5Radical Expressions and Equations | [P20.2](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=12&XML=Pre-calculus_20.xml) Expand and demonstrate understanding of radicals with numerical and variable radicands including: * computations
* solving equations (limited to square roots and one or two radicals). [C, CN, ME, PS, R, T]
 | 9 |
| Chapter 6Rational Expressions and Equations | [P20.3](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=13&XML=Pre-calculus_20.xml) Expand and demonstrate understanding of rational expressions and equations (up to and including degree 2 numerators and denominators) including: * equivalent forms of expressions
* operations on expressions
* solving equations that can be simplified to linear or quadratic equations. [C, CN, ME, R]
 | 12 |
| Chapter 7Absolute Value and Reciprocal Function | [P20.1](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=11&XML=Pre-calculus_20.xml) Demonstrate understanding of the absolute value of real numbers and equations and functions involving the absolute value of linear and quadratic functions. [C, PS, R, T, V] [P20.11](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=111&XML=Pre-calculus_20.xml) Demonstrate understanding of reciprocal functions of: * linear functions
* quadratic functions. [CN, R, T, V]
 | 12 |
| Chapter 8Systems of Equations |  [P20.8](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=18&XML=Pre-calculus_20.xml) Demonstrate understanding of quadratic equations including the solution of: * single variable equations
* systems of linear-quadratic and quadratic-quadratic equations in two variables. [C, CN, PS, R, T, V]
 | 7 |
| Chapter 9Linear and Quadratic Inequalities | [P20.9](https://www.edonline.sk.ca/webapps/moe-curriculum-BBLEARN/?view=indicators&lang=en&subpage=19&XML=Pre-calculus_20.xml) Expand and demonstrate understanding of inequalities including: * one-variable quadratic inequalities
* two-variable linear and quadratic inequalities.[C, CN, PS, T, V]
 | 10 |
|  | Final Review | 4 |

**Mark Breakdown**

Assignment & Quizzes 35%

Unit Tests & Projects 50%

Final Test 15%

\*\*Each unit will be weighted evenly