

Prerequisites for ULC 148

- Understanding of Cartesian coordinate system
- Equations/inequalities
 - Linear
 - Quadratics
 - Absolute value
 - Systems of equations
 - Circles
- Methods of graphing
 - Creating a table
 - Using roots/intercepts/slope
 - Using symmetry
- Transformations
 - Horizontal and vertical translations
 - Vertical scaling
 - Reflections (x-axis; y-axis; $y=x$)
- Relationship between graphic and algebraic representations and solutions

- Decimals, fractions, percents
- Union and intersection of sets
- Basic vocabulary (at least, at most, consecutive, etc.)

- Integers
- Scientific notation
- Radicals and exponents (and rules associated with them)

Basic
Arithmetic

ULC
148

Graphing

Algebra

Functions

Basic
Geometry

- Function notation
- Domain and range
- Composition of functions
- Adding, subtracting, multiplying functions
- Inverse functions
- Piecewise functions

- Perimeter of common figures
- Area of common figures
- Volume of common figures
- Parallel and Perpendicular lines
- Pythagorean theorem
- Parts of circles and triangles

- Evaluating and simplifying expressions
 - Combining like-terms
 - Distributive property
- Factoring polynomial expressions/equations using a variety of methods
- Solving equations/inequalities
 - Linear
 - Quadratic
 - Absolute value
 - Radical
 - Systems of equations

***Students must be fluent with/have mastered all of the concepts listed prior to taking ULC 148.** Students must have excelled (at least an A or 95% overall course grade) in **each** of *at least* three courses in a standard high school mathematics sequence (Algebra, Geometry, & Algebra II/Intermediate Algebra) to be placed in ULC 148. Otherwise, students should be placed in ULC 147.