

# Mathematics 3208

## Unit: Pre-Calculus

<b>Relations and Functions</b>	
<b>Specific Outcomes</b> It is expected that students will:	<b>Achievement Indicators</b>
RF1. Demonstrate an understanding of operations on, and compositions of, functions.	RF1.1 Sketch the graph of a function that is the sum, difference, product or quotient of two functions, given their graphs.  RF1.2 Write a function $h(x)$ as the sum, difference, product or quotient of two or more functions  RF1.3 Determine the domain and range of a function that is the sum, difference, product or quotient of two functions.  RF1.4 Determine the value of the composition of functions when evaluated at a point, including: <ul style="list-style-type: none"><li>• <math>f(f(a))</math></li><li>• <math>f(g(a))</math></li><li>• <math>g(f(a))</math>.</li></ul> RF1.5 Determine the equation of the composite function given the equations of two functions $f(x)$ and $g(x)$ : <ul style="list-style-type: none"><li>• <math>f(f(x))</math></li><li>• <math>f(g(x))</math></li><li>• <math>g(f(x))</math></li></ul> and explain any restrictions.  RF1.6 Sketch the graph of the composite function given the equations of two functions $f(x)$ and $g(x)$ and use the graph to determine the domain and range.  RF1.7 Determine the original functions from a composition.