## Advanced Mathematics 2200 Unit 5: Radical Expressions and Equations

## Text: Pre-Calculus 11

## Chapter 5

By the end of this unit, it is expected that students will:

	Outcome	Text Book
1.	Solve problems that involve operations on radicals and radical expressions with numerical and variable radicands.	Section 5.1 Pages 272 - 281
•	Compare and order radical expressions with numerical radicands in a given set.	
•	Express an entire radical with a numerical radicand as a mixed radical.	
•	Express a mixed radical with a numerical radicand as an entire radical.	
•	Explain using examples that $(-x)^2 = x^2$ , $\sqrt{x^2} =  x $ , and $\sqrt{x^2} \neq \pm x$ .	
•	Identify the values of the variable for which a given radical expression is defined.	
•	Express an entire radicand with a variable radicand as a mixed radical.	
•	Express a mixed radicand with a variable radicand as an entire radical.	
•	Perform one or more operation to simplify radical expressions with numerical or variable radicands.	Section 5.2 Pages 282 – 293
•	Rationalize the denominator of a rational expression with monomial or binomial denominators.	
•	Describe the relationship between rationalizing a binomial denominator of a rational expression and the product of the factors of a difference of squares expression.	
2.	Solve problems that involve radical equations (limited to square roots).	Section 5.3 Pages 294 – 303
•	Determine any restrictions on values for the variable in a radical equation.	
•	Determine the roots of a radical equation algebraically, and explain the process used to solve the equation.	
•	Verify, by substitution, that the values determined in solving a radical equation algebraically are roots of the equation.	
•	Explain why some roots determined in solving a radical equation	

	algebraically are extraneous.	
•	Solve problems by modeling a situation using a radical equation.	
<	Review	Pages 304 – 305
<	Practice Test	Pages 306 – 307