

OFFICIAL SYLLABUS  
**MATH 125**  
 Effective Summer 2014

**PRE-CALCULUS MATHEMATICS WITH TRIGONOMETRY**

**Catalog Description:** Brief Review of Algebra, exponential and logarithmic functions, trigonometric functions and their applications, inverse trigonometric functions, trigonometric identities and equations, laws of sines and cosines.

**Prerequisite:** Math 120 with a C or better, ACT Math score of 26 or higher, or satisfactory placement test score.

**Textbook:** PRECALCULUS MATHEMATICS FOR CALCULUS, 6th Edition, by Stewart, Redlin, and Watson.  
 ISBN: 978-0-8400-6807-1

	Title	Assignment (No graphing calculator)
(W1) 1.4	<b>Rational Expressions REVIEW</b> (Add more problems if you have difficulty.)	4, 5, 7, 9, 10, 12, 19, 31, 35 – 40, 43 – 47, 49, 55, 57, 59, 61, 63, 69 – 72, 75 - 81, 85, 90, 91, 93 – 100, 104, 105
(W1) 1.5	<b>Equations REVIEW</b> (Add more problems if you have difficulty.)	1, 4, 5, 23, 25, 26, 28, 31 – 33, 35, 39, 41, 42, 53, 55, 57, 65, 67, 69, 73, 79, 80, 85, 89, 91, 93, 95, 99, 101, 105, 108, 111, 112, 120, 124
(W1) 1.7	<b>Inequalities REVIEW</b>	1 – 3, 21, 29, 31, 33, 34, 37, 41, 43, 47, 49, 52, 53, 55, 57, 59, 61, 62, 65, 66, 68, , 69, 77, 81, 83, 87, 99, 101, 103, 107, 111, 115, 117, 121
	<b>Chapter 1 Review</b>	Concept check: 3, 7, 9, 10, 14 – 21, 23, 25 – 30, 32 Exercises: 33 – 47 odd, 51, 52, , 56, 57, 59 – 64, 68, 69, 72, 73, 76 – 79, 84, 86 – 93, 99, 105 – 109, 11, 115, 117, 118, 123, 125 – 132
(W2) 2.1	<b>What is a Function? Brief REVIEW</b>	2, 3, 5, 7, 10, 11, 19, 21, 23, 27, 29, 31, 33, 34 – 42, 43, 45, 47, 49, 51, 53 – 64, 73, 77 – 79, 81
(W2) 2.7	<b>One-to-One Functions and Their Inverses Brief REVIEW</b>	1 – 5, 7, 9, 11, 13, 17, 19, 21, 23, 24, 27, 31, 33, 35, 36, 41, 42, 45, 47, 49, 51 – 54, 57, 58, 59, 62, 63, 75 – 83

Section	Title	Assignment (No graphing calculator)
(W2) 5.1	The Unit Circle	1 – 3, 7, 9, 10, 14, 15, 17, 18, 21 – 23, 26 – 28, 31 – 34, 39, 41, 43, 46, 48, 49, 51, 53, 54
(W2+W3) 5.2	Trigonometric Functions of Real Numbers	1, 2, 5, 7 – 11, 13, 15, 16, 19 – 29, 33, 37, 39 – 41, 42, 47, 49, 51, 53, 55, 57, 59, 65 – 69, 71, 73 – 76, 85
(W3) 5.3	Trigonometric Graphs (Need graph paper!)	1, 2, 5, 7, 9, 14, 15, 21, 24, 25 - 27, 31 – 36, 43, 45, 46, 47, 50, 77, 79, 82
(W3) 5.4	More Trigonometric Graphs	Just know period, domain, range of tangent and cotangent, and be able to identify their associated graphs. 9-14, 19, 20, 23, 27-30, 35, 36, 39, 41, 43, 44, 49
(W4) 5.5	Inverse Trigonometric Functions and Their Graphs (Skip inverse secant, cosecant and cotangent)	1 – 6, 9, 10, 23, 24, 26, 29, 31, 33, 34, 38, 39, 41, 42, 44
	Chapter 5 Review	Concept check: 1 – 6, 9, 10 Exercises: 1 – 8, 11, 13 – 19, 21 – 29, 32 – 42, 47, 49 – 52
(W5) 6.1	Angle Measure	1 – 3, 5, 12, 23, 25, 29 – 31, 35, 39, 45 – 48, 51 – 53, 55 - 61 odd, 62, 63, 65, 76, 77
(W5) 6.2	Trigonometry of Right Triangles	1, 2, 5, 7, 9, 13, 19 – 27 odd, 28, 33 – 37 odd, 41, 42, 43, 47, 48, 51, 52, 54, 55, 56, 58, 60, 61
(W6) 6.3	Trigonometry Function of Angles	1, 2, 5, 7, 9, 10, 17, 23 – 27, 29, 31, 33, 35 – 38, 41 – 43, 45, 47, 48, 51, 52
(W6) 6.4	Inverse Trigonometric Functions and Right Triangles	1abc, 2abc, 3abc, 4abc, 5abc, 7, 9, 15, 18, 20, 21- 24, 27, 28, 32, 33, 35, 37, 40, 41
(W7) 6.5	Law of Sines	1, 3, 5, 9, 13, 17, 21, 23, 29, 30, 33 – 38
(W7) 6.6	Law of Cosines	1, 3, 5, 7, 13, 19, 21 – 27 odd, 39, 42, 43, 48, 49, 51
	Chapter 6 Review	Concept check: 1 – 9, 11, 12, 14 Exercises: 2, 3 – 7, 10, 11, 15 – 20, 22, 23, 26, 30 – 32, 35, 36, 38 – 40, 42 – 46, 51 – 73, 75, 78, 79

Section	Title	Assignment (No graphing calculator)
(W8) 7.1	Trigonometric Identities	1, 2, 7, 11, 13, 21, 25, 33, 36, 40, 43, 47, 51, 53, 57, 58, 61, 65, 66, 69, 75, 77 – 79, 83, 93, 95, 96, 102
(W9) 7.2	Addition and Subtraction Identities	1, 2, 3, 5, 9, 10, 12, 13, 15, 17, 25, 27, 30, 31, 33, 34, 51 – 53, 61
(W9) 7.3	Double-Angle, Half-Angle. Product-Sum Formulas (optional)(*)	1, 3 – 10 ,11-27 odd, 29-35 odd, 37, 38, 40, 51, 53, 73 – 83, 77
(W10) 7.4	Basic Trigonometric Equations	2, 5 – 12, 17, 19, 21, 27, 29, 30, 33, 36, 41 – 43, 45, 47, 51 - 53
(W11) 7.5	More Trigonometric Equations	1, 2, 3 – 5, 7, 8, 11, 17, 19
	Chapter 7 Review	Exercises: 4 – 7, 9 – 12, 31 – 35, 37, 41, 51, 52, 54, 55, 57, 61, 62, 64
P. 538	Cumulative Review Chapters 5 - 7	1 – 6, 8, 9, 11bc, 12
(W12) 4.1	Exponential Functions (Need graph paper!)	1 – 3, 7, 9, 11, 15, 19 - 21, 23 – 29, 32, 33, 35, 36, 40
(W11) 4.2	The Natural Exponential Function	1, 3, 6, 7, 9, 10, 14, 15b, 16b, 21, 25 Also from #16: Show that $[\cosh(x)]^2 - [\sinh(x)]^2 = 1$
(W13) 4.3	Logarithmic Functions	1 – 6, 9, 11, 12, 15, 17, 19, 21, 25 – 27, 29, 31, 33, 35, 36, 37, 39, 41, 43, 45 – 47, 49 – 52, 53 – 58 (also find the inverse function), 63 – 67, 75, 77, 85, 87, 90
(W14) 4.4	Laws of Logarithms	1 – 6, 9, 13, 15, 23 – 25, 27, 29 – 31, 33 – 35, 43, 49 – 51, 55, 57, 72
(W15) 4.5	Exponential and Logarithmic Equations	1, 2, 5, 10, 11, 13, 18 – 21, 25 – 27, 29, 32, 33, 43, 47 – 49, 51 – 53, 71 – 74, 82, 83, 88ab
	Chapter 4 Review	Concept check: 1 – 7 Exercises: 6 – 13, 17 – 19, 21, 23 – 25, 27 – 31, 33 – 39, 41 – 43, 45 – 47, 49, 51 – 53, 55, 57, 59, 61 – 69, 72, 82, 83, 85
P. 367	Cumulative Review Chapters 2 - 4	1 – 10, 12

**NOTE: Suggested problems may be adjusted accordingly by the instructor.**

**(\*) Suggested problems do not contain exercises for optional sessions**