

**MAT 1275CO - College Algebra and Trigonometry Corequisite
Course Outline**

Textbooks:

- 1) Intermediate Algebra 2e by Lynn Marecek, Andrea Honeycutt Mathis, et al. OpenStax, [adapted version](#) by Holly Carley and Ariane Masuda (Classes 1-29)
- 2) [Algebra and Trigonometry](#) by Jay Abramson, et al. OpenStax (Classes 30-42)

WeBWorK: WeBWorK for MAT1275CO uses the [OpenLab Q&A site](#). Students will need an [OpenLab](#) account in order to post new questions.

Class	Lesson	Section	Homework	WeBWorK Set
1	Graph Linear Equations with Two Variables	1.1	1.1 : 1, 5, 11, 25, 29, 31, 33, 43, 53, 63-69 odd, 71, 72	LinesReview
	Slope of a Line	1.2	1.2 : 1, 15, 21, 29, 35, 43, 53, 59, 61, 67, 69, 80-82	GraphingLines
	Find the Equation of a Line	1.3	1.3 : 1, 9, 19, 29, 41, 51, 82	LineLab
2	Solve Systems of Linear Equations with Two Variables	2.1	2.1 : 1, 5, 31, 47, 51, 53, 65, 68, 71	LinearSystems
3	Solve Systems of Linear Equations with Three Variables	2.4	2.4 : 2-14 even, 22, 26-32 even, 33, 34	3 × 3-Systems
	Solve Systems of Equations Using Determinants (optional)	2.5	2.5 : 2, 4, 10, 14, 18, 20, 26-30 even, 34, 36, 45, 47	
4	Properties of Integer Exponents	3.2	3.2 : 9, 23, 25, 31, 35, 45, 83, 84	IntegerExponents
5	Greatest Common Factor and Factor by Grouping	4.1	4.1 : 1, 13, 23, 33, 37, 45, 57-59	GCF-Grouping
6	Factor Trinomials	4.2	4.2 : 1, 9, 29, 41, 51-55 odd, 67, 96	AC-Method
	Factor Special Products	4.3	4.3 : 1-7 odd, 21-25 odd, 45, 50, 51	DifferenceOfSquares
7	Polynomial Equations	4.5	4.5 : 1-33 odd, 45-55 odd, 59, 60	ZeroProductProperty
8	Multiply and Divide Rational Expressions	5.1	5.1 : 5-13 odd, 31, 33, 37, 43, 51-55 odd, 60	MultDivRationalExpressions
9	Add and Subtract Rational Expressions	5.2	5.2 : 3-11 odd, 17, 25-29 odd, 33, 37, 45, 49, 51, 59, 61, 71	ReducingRationalExpressions AddRationalExpressions AddRationalExpressions2
	Simplify Complex Rational Expressions	5.3	5.3 : 1-35 odd, 38, 41-45 odd, 46	ComplexFractions-Method1 ComplexFractions-Method2
10	Solve Rational Equations	5.4	5.4 : 3-19 odd, 40, 46, 51	FractionalEquations
	Applications with Rational Equations	5.5	5.5 : 23-31 odd, 83	
11	Review			
12	Exam 1			
	Simplify Expressions with Square Roots	6.1	6.1 : 1-13 odd, 19, 22, 23, 28, 32, 33	HigherRoots HigherRoots-Algebraic
13	Simplify Radical Expressions	6.2	6.2 : 1-5 odd, 13a, 19a-23a odd (only a), 41, 49a, 61, 62	SimplifyingRadicals
	Simplify Rational Exponents	6.3	6.3 : 1, 5, 9-17 odd, 23, 27-35 odd, 41a, 45	RationalExponents
14	Add, Subtract, and Multiply Radical Expressions	6.4	6.4 : 1a-9a odd (only a), 10a-13a (only a), 17, 18, 19a-29a odd (only a), 31, 33a, 35a, 41-49 odd, 77, 78, 81	AddSubtractRadicals
15	Divide Radical Expressions	6.5	6.5 : 1, 3, 7, 11, 12, 14, 16-24 even, 29	RationalizeDenominators
16	Solve Radical Equations	6.6	6.6 : 1,3,7-13 odd, 15-18, 31, 49, 51	RadicalEquations
17	Complex Numbers	6.7	6.7 : 1,7-15 odd, 21-29 odd, 33,35, 45-47, 49-59 odd, 61-65, 70, 71	ComplexNumbers

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18	Solve Quadratic Equations Using the Square Root Property Solve Quadratic Equations Completing the Square	7.1 7.2	7.1: 1-11 odd, 25-37 odd, 69 7.2: 1, 5-9 odd, 29-35 odd, 41	SquareRootProperty
19	Solve Quadratic Equations Using the Quadratic Formula	7.3, derive the quadratic formula	7.3: 3-19 odd, 33-37 odd, 41	QuadraticFormula
20	Applications of Quadratic Equations	7.4	7.4: 1-23 odd, 33	
21	Graph Quadratic Equations Using Properties	7.5	7.5: 1-5 odd, 9-15 odd, 25-33 odd, 49-55 odd, 61	ShiftingParabolas
	Graph Quadratic Equations Using Transformations	7.6	7.6: 1-47 odd, 57, 59, 69	ParabolaLab ParabolaVertices-CtS ParabolaVertices-VertexFormula
	More Parabolas (optional)	8.1	8.1: 13, 15, 37	
22	Distance and Midpoint Formulas and Circles	8.2	8.2: 1-5 odd, 13-17 odd, 18, 19-37 odd, 41-47 odd, 53	DistanceFormula
	Perpendicular Bisectors			CircleLab Circles
23	Solve Systems of Nonlinear Equations	8.3	8.3: 2-8 even, 14, 16, 22, 26-36 even, 42, 44, 48, 50, 53, 57	NonLinearSystems
24	Review			
25	Exam 2 (Midterm)			
26	Evaluate Exponential Expressions and Graph Basic Exponential Equations	9.1	9.1: 13-19, 23, 25, 27-35 odd	ExponentialFunctions
27	Evaluate Logarithms and Graph Basic Logarithmic Equations	9.2	9.2: 4-46 even, 89	LogarithmicFunctions
28	Use the Properties of Logarithms	9.3	9.3: 2-10 even, 34-60 even, 62, 64, 67, 68	LogarithmicProperties
29	Solve Exponential and Logarithmic Equations	9.4	9.4: 10-16 even, 24, 44, 50, 51, 53	ExponentialEquations ExponentialEquations-Calc CompoundInterest
30	Angles	7.1 (Ex. 1-8)	7.1: 7-21 odd, 27-39 odd, 51-57 odd	AngleMeasure-Radians
31	Right Triangle Trigonometry	7.2	7.2: 1, 3, 7, 10-16, 17-41, 43, 45, 47-55 odd	SolvingRightTriangles SpecialTriangles TrigonometryRatios
32-33	Unit Circle	7.3	7.3: 1-57 odd, 61-79 odd, 83, 87, 101, 103	UnitCircle
34	The Other Trigonometric Functions	7.4 (exclude Ex. 4)	7.4: 1-65 odd, 70, 71, 75	CoordinatePlaneTrig
35	Graphs of the Sine and Cosine Functions	8.1 (Ex. 1, 2, 8)	8.1: 1, 5, 7-13 odd, 26, 27, 28, 30, 38	GraphingSineCosine
	Graphs of the Other Trigonometric Functions (optional)	8.2 (Ex. 1, 3)	8.2: 22, 24	

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36	Review			
37	Exam 3 Inverse Trigonometric Functions	8.3 (Ex. 1-4)	<u>8.3</u> : 3, 9-21 odd, 22, 23, 53, 55, 57	SolvingRightTriangles- InverseTrig
38	Solving Trigonometric Equations with Identities	9.1	<u>9.1</u> : 4, 5, 7, 13, 29, 31, 32, 33, 40, 42	
39-40	Solving Trigonometric Equations	9.5 (Ex. 1-5, 7-13, 17)	<u>9.5</u> : 5-19 odd, 41-49 odd, 73-77 odd	TrigEquations
41	Non-right Triangles: Law of Sines	10.1	<u>10.1</u> : 3-51 odd, 59-77 odd	LawOfSines
42	Non-right Triangles: Law of Cosines	10.2 (Ex. 1-4)	<u>10.2</u> : 1, 7-25 odd, 33-53 odd, 63-73 odd	LawOfCosines
43-44	Review			
45	Final Exam			