

## COURSE OUTLINE FOR MATH 115

Instructor: Nick Marsden, Ewing 258

Text: Precalculus, Sixth Edition, by Larson & Hostetler

### CHAPTER A: APPENDIX A

#	Text	Time	
1	A.4	2	Rational Expressions
2	A.5	1	Solving Equations
3	A.6	1	Solving Inequalities

### CHAPTER 1: FUNCTIONS AND THEIR GRAPHS

#	Text	Time	
4	1.3	3	Functions
5	1.4	1	Analyzing Graphs of Functions
6	1.5,1.6	3	Basic Inventory of Functions, Unit Circle & Hyperbola;
			Shifting, Reflecting and Stretching Graphs
			TAKE-HOME TEST
7	1.7	1	Combinations of Functions
8	1.8	1	Inverse Functions
		1	TEST 1, Lessons 1 to 8

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### CHAPTER 2: POLYNOMIAL AND RATIONAL FUNCTIONS

#	Text	Time	
9	2.1	2	Quadratic Functions
10	2.2	1	Polynomial Functions of Higher Degree
11	2.3	1	Polynomial and Synthetic Division
12	2.5	2	Zeros of Polynomial Functions
13	2.6	2	Rational Functions
			TAKE-HOME TEST

### CHAPTER 3: EXPONENTIAL AND LOGARITHMIC FUNCTIONS

#	Text	Time	
14	3.1	.5	Exponential Functions and Their Graphs
15	3.2	1.5	Logarithmic Functions and Their Graphs
16	3.3	1.5	Properties of Logarithms
17	3.4	1.5	Exponential and Logarithmic Equations
18	3.5	3	Exponential and Logarithmic Models
		1	TEST 2, Lessons 9 to 18

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## CHAPTER 4: TRIGONOMETRY

#	Text	Time	
19	4.1	1	Radian and Degree Measure
20	4.3	1	Right Triangle Trigonometry
21	4.2+4.4	2	Trigonometric Functions: The Unit Circle
22	4.5	1	Graphs of Sine and Cosine Functions
23	4.6	1.5	Graphs of Other Trigonometric Functions
24	4.7	1.5	Inverse Trigonometric Functions

## CHAPTER 5: ANALYTIC TRIGONOMETRY

#	Text	Time	
25	5.1	2	Using Fundamental Identities
26	5.2	1.5	Verifying Trigonometric Identities
		1	TEST 3, Lessons 19 to 26

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27	5.3	2	Solving Trigonometric Equations
28	5.4	2	Sum and Difference Formulas
29	5.5	2	Double and Half Angle Formulas
			TAKE-HOME TEST
		1	TEST 4, Lessons 19 to 29

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## CALCULUS

#	Text	Time	
30	Notes	1	Limits
31	Notes	1	The Secant line; Average Velocity
32	Notes	1	The Tangent line
33	Notes	1	The Derivative Function
34	Notes	1.5	Differentiation Rules for Polynomials;
	Instantaneous		Velocity
35	Notes	1.5	Graphing Polynomial Functions
36	Notes	1	Max/Min Problems
		1	TEST 5, Lessons 30 to 36

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Review: 3 hours

Final exam, Lessons 1 to 36