

## Westbrook High School /University of CT Early College Experience Program

### MATH 113Q – Introductory Calculus 2

#### Course Description

M113Q. Introductory Calculus 2. (4 credits). Limits, derivatives, and extreme values of trigonometric functions, with supporting trigonometric topics; anti-derivatives of algebraic and trigonometric functions; the definite integral and applications

#### Text

Calculus, 2nd Edition, by Smith, R. & Minton, R.

#### Course Outline

Section	Topic
3.7	Optimization
4.1	Antiderivatives
4.2	Sums and Sigma Notation
4.3	Area
4.4	The Definite Integral
4.5	The Fundamental Theorem of Calculus
4.6	Integration by Substitution
4.7	Numerical Integration
	Review for Exam 1
	Review for Exam 1 Answers
5.1	Area Between Curves
5.2	Volume
6.1	The Natural Logarithm Revisted
6.2	Inverse Functions
6.3	The Exponential Function Revisted
6.4	Growth and Decay
6.7	The Inverse Trigonometric Functions
6.8	The Calculus of the Inverse Trigonometric Functions
7.1	Review of Formulas and Techniques
7.2	Integration by Parts
7.3	Trigonometric Techniques of Integration
7.4	Integration of Rational Functions Using Partial Fractions
7.4	Integration of Rational Functions Using Partial Fractions
7.6	Indeterminate Forms and L'Hopital's Rule

7.7	Improper Integrals
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### Homework Assignments

Section	Exercises
Ch 3	(p.238) # 13,16,23,26,27,29,31,36,37,39,42,43,45 (p.319) #10
3.7	(p.306) # 7,8,9,11,12,19,21,29,37
4.1	(p.331) # 6,10,11,15,22,24,25,35,40,65,66,72
4.2	(p.340) # 9,10,19,24,27,36
4.3	(p.348) # 12,13,14,17,23,36,42,43
4.4	(p.361) # 5,9,15,18,24,27,36,39,43,49,51
4.5	(p.371) # 9,12,13,18,21,25,28,41,44,48,55
4.6	(p.381) # 10,13,17,24,28,32,39,45,50,55
4.7	(p.397) # 5,9,13,17,33
5.1	(p.408) # 5,8,15,20,23,26
5.2	(p.423) # 11,17,21,23,27,30
6.1	(p.485) # 8,10,13,14,15,19,21,23,25,27,33,35,37
6.2	(p.493) # 5, 6,11,17,21,25,27,31,35,41,43
6.3	(p.500) # 5,8,15,19,23,26,27,29,34,39,41,51,53,55,62,64,67,71,75
6.4	(p.509) # 7,15,19,25,31,39,41
6.7	(p.534) # 5,6,13,17,19,27,29,43,45,47,53
6.8	(p.541) # 3,5,11,13,17,19,21,23,27,29,32,35
7.1	(p.559) # 3,7,13,15,19,21,25,27,35,37
7.2	(p.566) # 5,7,10,11,15,19,20,29,32
7.3	(p.576) # 4,7,11,15,17,25,27,29,35
7.4	(p.585) # 4,5,7,9,16,19,25,27
7.6	(p.603) # 4,7,12,13,15,19,23,25,29,35
7.7	(p.617) # 16,17,28,29,34,41