

# Math 1483 - Functions and Modeling

## Fall 2022 - Schedule

updated August 1, 2022 at 11:58

Note: A list of learning objectives and general education outcomes can be found at the bottom of this document.

#	Assignment	Due Date	Points	Week	Learning Objectives	Gen. Ed. Outcomes
1	Week 1 Discussion Board	2022.08.28	30	1	1, 5	2
2	Prologue: Calculator Arithmetic	2022.09.04	100	2	1	1
3	Cumulative Quiz #1	2022.09.04	100	2	1	1
4	Week 2 Discussion Board	2022.09.04	30	2	1, 5	2
5	Section 1.1: Functions Given by Formulas	2022.09.11	100	3	1, 5	1, 3
6	Section 1.2: Functions Given by Tables	2022.09.11	100	3	1, 3	1, 3
7	Week 3 Discussion Board	2022.09.11	30	3	1, 3	1, 3
8	Section 1.3: Functions Given by Graphs	2022.09.18	100	4	1, 3	1, 2
9	Cumulative Quiz #2	2022.09.18	100	4	1, 3, 5	1, 2, 3
10	Week 4 Discussion Board	2022.09.18	30	4	1, 3	1, 3
11	Section 1.4: Functions Given by Words	2022.09.25	100	4	1, 5	3
12	Section 2.1: Tables and Trends	2022.09.25	100	5	1, 5	1, 2
13	Week 5 Discussion Board	2022.09.25	30	5	1, 5	1, 2
14	Section 2.2: Graphs	2022.10.02	100	6	1, 3, 5	1, 3
15	Cumulative Quiz #3	2022.10.02	100	6	1, 3, 5	1, 2, 3
16	Week 6 Discussion Board	2022.10.02	30	6	1, 5	1, 2
17	Section 2.3: Solving Linear Equations	2022.10.09	100	7	1, 2, 3, 5	1, 3
18	Section 2.4: Solving Nonlinear Equations	2022.10.09	100	7	1, 2, 3, 5	1, 3
19	Week 7 Discussion Board	2022.10.09	30	7	1, 2, 3, 5	1, 3
20	Section 2.5: Inequalities	2022.10.16	100	8	1, 2, 5	1, 3
21	Section 2.6: Optimization	2022.10.16	100	9	1, 3, 5	1, 2, 3
22	Week 8 Discussion Board	2022.10.16	30	8		
23	Section 3.1: The Geometry of Lines	2022.10.23	100	9	1, 2, 3, 5	1, 2, 3
24	Week 9 Discussion Board	2022.10.23	30	9	1, 3, 5	1, 2, 3
25	Section 3.2: Linear Functions	2022.10.30	100	10	1, 2, 3, 5	1, 2, 3
26	Research Paper Topic Selection	2022.10.30	10	10		
27	Cumulative Quiz #4	2022.10.30	100	10	1, 2, 3, 5	1, 2, 3
28	Week 10 Discussion Board	2022.10.30	30	10		
29	Section 3.3: Modeling Data with Linear Functions	2022.11.06	100	11	1, 2, 4, 5	1, 2, 3
30	Section 3.4: Linear Regression	2022.11.06	100	11	1, 2, 3, 4, 5	1, 2, 3
31	Week 11 Discussion Board	2022.11.06	30	11	1, 2, 3, 5	1, 2, 3

32	Section 3.5: Systems of Equations	2022.11.13	100	12	1, 2, 3, 5	1, 2, 3
33	Week 12 Discussion Board	2022.11.13	30	12	1, 4, 5	2
34	Section 5.5: Quadratic Functions	2022.11.20	100	13	1, 2, 3, 4, 5	1, 2, 3
35	Section 4.1: Exponential Growth and Decay	2022.11.20	100	13	1, 2, 3, 5	1, 2, 3
36	Week 13 Discussion Board	2022.11.20	30	13	1, 4, 5	2
37	Section 4.3: Modeling Exponential Data	2022.12.04	100	14	1, 2, 3, 4, 5	1, 2, 3
38	Week 14 Discussion Board	2022.12.04	30	14		
39	Section 4.4: Modeling Nearly Exponential Data	2022.12.11	100	15	1, 2, 3, 4, 5	1, 2, 3
40	Week 15 Discussion Board	2022.12.11	30	15	1, 4, 5	2
41	Cumulative Quiz #5	2022.12.16	100	16	1, 2, 3, 4, 5	1, 2, 3
42	Research Paper Due	2022.12.16	90	16	1, 2, 3, 4, 5	1, 2, 3
43	Week 16 Discussion Board	2022.12.16	30	16		

### Learning Objectives

The following objectives will be met in this class:

- (1) Interpret functions using real-world contexts by translating across multiple representations, including symbols, tables, graphs, and words.
- (2) Identify and analyze families of functions, including linear, polynomial, rational, exponential, and logarithmic functions.
- (3) Determine key characteristics of functions, including global properties and local patterns of change, and interpret their meanings in context, including asymptotes, concavity, end behavior, extrema, increasing/decreasing intervals, and turning points.
- (4) Combine and modify existing functions to create new functions, including composition of functions, cost, revenue, and profit functions, transformation of functions, and regression analysis.
- (5) Apply algebraic techniques and digital resources to create, analyze, and interpret appropriate models (either functions or systems of equations) of real-life phenomena.

### General Education Outcomes

As a general education course, this course contributes to the critical thinking and the mathematical or quantitative reasoning components of the general education program at Southeastern. The goal of the critical thinking component is to enhance the ability of students to integrate new information with previously acquired information to solve novel complex problems. To address the critical thinking goal, students will solve problems described verbally, graphically, symbolically or numerically. The goal of the mathematical or quantitative reasoning component is to develop the ability of students to understand and apply mathematical abstraction. To address the mathematical or quantitative reasoning goal, students will:

- (1) Solve problems using the principles of algebra and statistics.
- (2) Apply mathematical reasoning and technology to analyze and interpret quantitative information.
- (3) Use and interpret mathematical formulas.