

## 231 Syllabus

Fall 2003

Day	Date	Sxn	Topic/Homework
1-M	8/25	0.1	Numbers and Sets 0, 3, 5, 7, 11, 12, 18, 29, 32, 33, 37, 42, 49, 60, 65, 68, 75, 81, 85, 89, 93.
1-W	8/27	0.2	Equations 0, 11, 14, 15, 16, 17, 22, 25, 32, 37, 40, 46, 49, 51, 56, 63, 67, 71, 73, 79, 83, 86, 88.
1-R	8/28	-	<b>Diagnostic Quiz</b>
		0.3	Inequalities 0, 1, 2, 4, 12, 18, 23, 25, 27, 35, 43, 46, 52, 58, 66, 67, 72, 78, 89, 90.
1-F	8/29	0.4	Logic 0, 4, 10, 13, 16, 17, 21, 27, 31, 35, 41, 47, 50, 52, 56, 57, 66, 68, 76, 80, 81, 88, 92.
2-M	9/1	0.5	Proofs 0, 2, 3, 5, 9, 12, 15, 20, 21, 22, 23, 24, 26, 27, 29, 31, 35, 42, 46, 48, 49.
2-W	9/3	-	Problems Day
2-R	9/4	-	<b>Quiz 1</b> (0.1, 0.2, 0.3, 0.4, 0.5)
		1.1	What is a Function? 0, 1, 3, 5, 8, 12, 15, 17, 21, 22, 23, 24, 25, 27, 29, 31, 33, 35, 37, 41.
2-F	9/5	1.2	Graphs of Functions 0, 2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 15, 16, 19, 22, 25, 26, 28, 29, 30, 31, 33, 35, 38, 39.
3-M	9/8	1.3	Linear Functions 0, 1, 3, 6, 8, 10, 11, 15, 16, 17, 21, 22, 25, 29, 31, 32, 36, 38, 39, 41, 42, 46, 48.
3-W	9/10	1.4	A Basic Library of Functions 0, 2, 6, 7, 9, 12, 14, 17, 21, 22, 25, 26, 28, 31, 32, 34, 40, 42, 44, 45, 47, 49, 50, 51.
3-R	9/11	-	<b>No class</b>
3-F	9/12	-	<b>No class</b>
4-M	9/15	1.5	Combinations of Functions 0, 7, 8, 12, 14, 22, 32, 33, 36, 38, 39, 41, 44, 61, 68, 75, 87, 90, 99, 103, 109, 111.
4-W	9/17	-	Problems Day
4-R	9/18	-	<b>Quiz 2</b> (1.1, 1.2, 1.3, 1.4, 1.5)
		1.6	Transformations and Symmetry 0, 4, 7, 10, 14, 15, 18, 31, 33, 34, 35, 41, 44, 58, 62, 63, 68, 71, 72, 75, 77, 79, 85.
4-F	9/19	1.7	Inverse Functions 0, 1, 4, 6, 7, 9, 10, 12, 14, 16, 18, 21, 24, 27, 29, 31, 32, 33, 36, 38, 42, 43, 49.
5-M	9/22	2.1	Intuitive Notion of Limit 0, 1, 2, 6, 8, 10, 13, 14, 15, 16, 17, 18, 20, 22, 23, 24, 29, 30, 31, 34, 37, 39.
5-W	9/24	-	Review for Test I
5-R	9/25	-	<b>TEST I</b> (0.1–2.1)
5-F	9/26	2.2	Formal Definition of Limit 0, 1, 2, 4, 7, 13, 14, 15, 16, 18, 20, 21, 27, 29, 33, 39, 40, 42, 47, 52, 53, 56, 57, 60.

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6-M	9/29	2.3	Delta-Epsilon Proofs 0, 1, 2, 3, 5, 9, 10, 13, 15, 16, 20, 25, 26, 28 29, 31, 37, 38, 43.
6-W	10/1	-	Problems Day
6-R	10/2	-	<b>Quiz 3</b> (2.2, 2.3, Test I)
		2.4	Limit Rules 0, 1, 3, 7, 14, 15, 16, 17, 21, 22, 31, 33, 35, 38, 40, 43, 46, 47, 50, 51, 54, 55.
6-F	10/3	2.5	Calculating Limits 0, 1, 2, 3, 5, 6, 7, 9, 11, 13, 14, 18, 20, 21, 22, 24, 30, 35, 37, 39, 42, 44, 46, 47.
7-M	10/6	2.6	Continuity 0, 3, 5, 10, 13, 15, 20, 22, 25, 27, 28, 36, 38, 39, 42, 43, 48, 49, 52, 55, 59, 60, 61, 68.
7-W	10/8	-	Problems Day
7-R	10/9	-	<b>Quiz 4</b> (2.4, 2.5, 2.6)
		2.7	Two Theorems about Continuous Functions 0, 2, 3, 6, 8, 9, 14, 15, 16, 17, 18, 19, 24, 26, 27, 33, 35, 37, 38, 44, 50, 52, 56, 61, 63.
7-F	10/10	3.1	Tangent Lines and the Derivative at a Point 0, 1, 8, 11, 12, 16, 17, 24, 30, 35, 40, 43, 47, 51, 55, 60, 64, 69, 75, 83, 87, 91, 94.
8-M	10/13	3.2	The Derivative as an Instantaneous Rate of Change 0, 3, 5, 6, 7, 8, 9, 10, 11, 12, 19, 20, 22, 24, 28, 30, 31, 32, 33, 34, 35, 37.
8-W	10/15	-	Problems Day
8-R	10/16	-	<b>Quiz 5</b> (2.7, 3.1, 3.2)
		3.3	Differentiability 0, 2, 3, 4, 5, 6, 7, 9, 11, 13, 14, 17, 20, 21, 23, 24, 26, 27, 30, 33, 34, 35, 36.
8-F	10/17	-	<b>Fall Break</b>
9-M	10/20	3.4	The Derivative as a Function 0, 2, 7, 11, 12, 13, 15, 17, 23, 28, 35, 38, 41, 46, 50, 53, 56, 59, 63, 64, 65, 68, 71.
9-W	10/22	-	Review for Test II
9-R	10/23	-	<b>TEST II</b> (2.2–3.4)
9-F	10/24	3.5	Basic Differentiation Rules 0, 5, 10, 18, 22, 23, 28, 29, 33, 39, 40, 46, 48, 53, 58, 65, 68, 71, 74, 75, 76, 81, 82.
10-M	10/27	3.6	Three Theorems about Tangent Lines 0, 4, 7, 11, 15, 18, 21, 25, 27, 28, 30, 34, 39, 40, 44, 47, 50, 54, 56, 60, 63, 65, 67.
10-W	10/29	3.7	The First Derivative and Function Behavior 0, 1, 5, 9, 12, 14, 17, 19, 20, 21, 22, 24, 27, 28, 30, 34, 36, 38, 42, 44, 45, 46.
10-R	10/30	-	<b>Quiz 6</b> (3.5, 3.6, 3.7, Test II)
		3.8	The Second Derivative and Function Behavior 0, 2, 3, 11, 15, 19, 21, 25, 30, 37, 39, 42, 46, 47, 52, 55, 58, 61, 65, 68, 69, 71, 73, 76.
10-F	10/31	4.1	The Algebra of Power Functions 07, 12, 19, 22, 34, 36, 39, 42, 48, 51, 58, 61, 65, 67, 69, 72, 76, 78, 90, 93, 97, 99, 103.

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11-M	11/3	4.2	Limits of Power Functions 0, 1, 2, 4, 8, 11, 15, 18, 21, 24, 25, 26, 31, 36, 43, 49, 52, 54, 57, 59, 60, 62, 65.
11-W	11/5	-	Problems Day
11-R	11/6	-	<b>Quiz 7</b> (3.8, 4.1, 4.2)
		4.3	Derivatives of Power Functions 0, 1, 3, 4, 7, 11, 13, 14, 15, 20, 21, 23, 24, 32, 38, 42, 47, 49, 52, 59, 65, 71, 76, 77.
11-F	11/7	4.4	Graphs of Power Functions with Integer Powers 0, 3, 4, 8, 9, 11, 14, 16, 18, 19, 24, 30, 32, 36, 37, 40, 43, 45, 48, 50, 61, 57, 71.
12-M	11/10	4.5	Graphs of Power Functions with Rational Powers 0, 2, 6, 9, 11, 12, 14, 20, 26, 31, 34, 40, 43, 47, 48, 52, 54, 57, 59, 60, 64, 67, 72.
12-W	11/12	5.1	The Algebra of Polynomial Functions 0, 8, 10, 11, 22, 23, 31, 36, 42, 43, 45, 46, 52, 53, 59, 63, 72, 75, 78, 79, 86, 90, 95, 98.
12-R	11/13	-	<b>Quiz 8</b> (4.3, 4.4, 4.5, 5.1)
		5.2	Limits and Derivatives of Polynomial Functions 0, 5, 7, 10, 14, 15, 16, 18, 20, 21, 25, 33, 37, 41, 43, 48, 53, 57, 62, 66, 68, 71.
12-F	11/14	5.3	Graphing Polynomial Functions 0, 2, 3, 6, 9, 12, 16, 18, 27, 28, 35, 38, 42, 44, 46, 50, 52, 54, 56, 60, 61, 63, 64.
13-M	11/17	5.4	Optimization with Polynomial Functions 0, 2, 6, 7, 9, 11, 14, 16, 20, 22, 24, 25, 26, 28, 29, 31, 32, 34, 35, 38.
13-W	11/19	-	Review for Test III
13-R	11/20	-	<b>TEST III</b> (3.5–5.4)
13-F	11/21	6.1	The Algebra of Rational Functions 0, 2, 4, 8, 10, 14, 15, 17, 20, 21, 23, 25, 28, 29, 31, 34, 35, 42, 43, 44, 46, 49, 53, 57.
14-M	11/24	6.2	Limits and Asymptotes of Rational Functions 0, 3, 4, 6, 11, 13, 14, 15, 20, 24, 25, 30, 36, 37, 38, 41, 42, 43, 46, 52, 56, 58.
14-W	11/26	-	<b>Thanksgiving Break</b>
14-R	11/27	-	<b>Thanksgiving Break</b>
14-F	11/28	-	<b>Thanksgiving Break</b>
15-M	12/1	6.3	Derivatives of Rational Functions 0, 1, 2, 3, 4, 5, 6, 7, 11, 12, 20, 21, 26, 30, 32, 39, 41, 42, 47, 48, 50, 52.
15-W	12/3	-	Problems Day
15-R	12/4	-	<b>Quiz 9</b> (6.1, 6.2, 6.3)
		6.4	Graphs of Rational Functions 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 18, 19, 21, 25, 26, 27, 30, 33, 34, 35, 37, 39.
15-F	12/5	-	Last Day (mandatory attendance)
F-M	12/8	-	Final Exam 01, 10:30-12:30, B126
F-W	12/9	-	Final Exam 02, 10:30-12:30, B126