Calendar — Math 1181H

Autumn 2012 — Jim Fowler

Week 1	Wednesday	August	22, 2012	§1.5 The Concept of a Function	pg. 22
	Thursday	August	23, 2012	§1.6 Graphs of Functions	pg. 30
	Friday	August	24, 2012	§1.7 Introductory Trigonometry: The Functions $\sin\theta$ and $\cos\theta$	pg. 37
Week 2	Monday	August	27, 2012	§2.1 What is Calculus? The Problems of Tangents	pg. 51
	Tuesday	August	28, 2012	§2.2 How to Calculate the Slope of the Tangent	pg. 53
	Wednesday	August	29, 2012	§2.3 The Definition of the Derivative	pg. 58
				§2.4 Velocity and Rates of Change	pg. 62
	Thursday	August	30, 2012	§2.5 The Concept of a Limit: Two Trigonometric Limits	pg. 68
	Friday	August	31, 2012	§2.6 Continuous Functions: The Mean Value Theorem	pg. 74
Week 3	Monday	September	3, 2012	§3.1 Derivatives of Polynomials	pg. 83
	Tuesday	September	4, 2012	§3.2 The Product and Quotient Rules	pg. 88
	Wednesday	September	5, 2012	§3.3 Composite Functions and the Chain Rule	pg. 92
	Thursday	September	6, 2012	§3.4 Some Trigonometric Derivatives	pg. 98
				§3.5 Implicit Functions and Fractional Exponents	pg. 102
	Friday	September	7, 2012	§3.6 Derivatives of Higher Order	pg. 107
Week 4	Monday	September	10, 2012	§4.1 Increasing and Decreasing Functions: Maxima and Minima	pg. 115
	Tuesday	September	11, 2012	§4.2 Concavity and Points of Inflection	pg. 120
				§4.3 Applied Maximum and Minimum Problems	pg. 123
	Wednesday	September	12, 2012	§4.4 More Maximum-Minimum Problems	pg. 131
	Thursday	September	13, 2012	§4.5 Related Rates	pg. 139
	Friday	September	14, 2012	§4.6 Newtons Method for Solving Equations	pg. 143
Week 5	Monday	September	17, 2012	§5.1 Introduction to Indefinite Integrals	pg. 163
				§5.2 Differentials and Tangent Line Approximations	pg. 163
	Tuesday	September	18, 2012	§5.3 Indefinite Integrals: Integration by Substitution	pg. 170
	Wednesday	September	19, 2012	§5.4 Differential Equations: Separation of Variables	pg. 178
	Thursday	September	20, 2012	§5.5 Motion Under Gravity: Escape Velocity and Black Holes	pg. 181
	Friday	September	21, 2012	**Midterm 1**	
Week 6	Monday	September	24, 2012	§6.1 Introduction to Definite Integrals	pg. 190
				§6.2 The Problem of Areas	pg. 191
	Tuesday	September	25, 2012	§6.3 The Sigma Notation and Certain Special Sums	pg. 194
				§6.4 The Area Under a Curve: Definite Integrals	pg. 197
	Wednesday	September	26, 2012	§6.5 The Computation of Areas as Limits	pg. 203
	Thursday	September	27, 2012	§6.6 The Fundamental Theorem of Calculus	pg. 206
	Friday	September	28, 2012	§6.7 Properties of Definite Integrals	pg. 213
				§7.1 The Intuitive Meaning of Integration	pg. 221
Week 7	Monday	October	1, 2012	§7.2 The Area between Two Curves	pg. 222
				§7.3 Volumes: The Disk Method	pg. 225
	Tuesday	October	2, 2012	§7.4 Volumes: The Method of Cylindrical Shells	pg. 231
	Wednesday	October	3, 2012	§7.5 Arc Length	pg. 236
	Thursday	October	4, 2012	§7.6 The Area of a Surface of Revolution	pg. 240
				§7.7 Work and Energy	pg. 244
	Friday	October	5, 2012	§7.8 Hydrostatic Force	pg. 252
Week 8	Monday	October	8, 2012	§8.1 Introduction to Exponential and Logarithm Functions	pg. 260
				§8.2 Review of Exponents and Logarithms	pg. 261
	Tuesday	October	9, 2012	§8.3 The Number e and the Function $y = e^x$	pg. 264
	Wednesday	October	10, 2012	§8.4 The Natural Logarithm Function $y = \log x$	pg. 269
	Thursday	October	11, 2012	§8.5 Applications: Population Growth and Radioactive Decay	pg. 277
	Friday	October	12, 2012	§8.6 More Applications	pg. 287
				§9.1 Review of Trigonometry	pg. 292

Week 9	Monday	October	15, 2012	§9.2 The Derivatives of the Sine and Cosine	pg. 301
	Tuesday	October	16, 2012	§9.3 The Integrals of the Sine and Cosine	pg. 306
	Wednesday	October	17, 2012	§9.4 The Derivatives of the Other Four Functions	pg. 310
	Thursday	October	18, 2012	§9.5 The Inverse Trigonometric Functions	pg. 313
	Friday	October	19, 2012	**Midterm 2**	
Week 10	Monday	October	22, 2012	§9.6 Simple Harmonic Motion	pg. 324
	Tuesday	October	23, 2012	§9.7 Hyperbolic Functions	pg. 330
				§10.1 Introduction to Methods of Integration	pg. 334
	Wednesday	October	24, 2012	§10.2 The Method of Substitution	pg. 337
				§10.3 Certain Trigonometric Integrals	pg. 340
	Thursday	October	25, 2012	§10.4 Trigonometric Substitutions	pg. 344
				§10.5 Completing the Square	pg. 348
	Friday	October	26, 2012	§10.6 The Method of Partial Fractions	pg. 351
Week 11	Monday	October	29, 2012	§10.7 Integration by Parts	pg. 357
	Tuesday	October	30, 2012	§10.8 A Mixed Bag	pg. 362
	Wednesday	October	31, 2012	§10.9 Numerical Integration	pg. 369
	Thursday	November	1, 2012	§11.1 The Center of Mass of a Discrete System	pg. 384
				§11.2 Centroids	pg. 386
	Friday	November	2, 2012	§11.3 The Theorems of Pappus	pg. 391
				§11.4 Moment of Inertia	pg. 393
Week 12	Monday	November	5, 2012	§12.1 The Mean Value Theorem Revisited	pg. 398
				§12.2 The Interminate Form 0/0. L'Hospital's Rule	pg. 400
	Tuesday	November	6, 2012	§12.3 Other Interminate Forms	pg. 404
	Wednesday	November	7, 2012	§12.4 Improper Integrals	pg. 409
				§12.5 The Normal Distribution	pg. 414
	Thursday	November	8, 2012	§13.1 What is an Infinite Series?	pg. 427
	Friday	November	9, 2012	**Midterm 3**	
Week 13	Monday	November	12, 2012	*Veteran's Day*	
	Tuesday	November	13, 2012	§13.2 Convergent Sequences	pg. 432
	Wednesday	November	14, 2012	§13.3 Convergent and Divergent Series	pg. 439
	Thursday	November	15, 2012	§13.4 General Properties of Convergent Series	pg. 445
	Friday	November	16, 2012	§13.5 Series on Nonnegative Terms: Comparison Tests	pg. 451
Week 14	Monday	November	19, 2012	§13.6 The Integral Test	pg. 455
				§13.7 The Ratio Test and Root Test	pg. 461
	Tuesday	November	20, 2012	§13.8 The Alternating Series Test	pg. 465
	Wednesday	November	21, 2012	*Thanksgiving Break*	
	Thursday	November	22, 2012	*Thanksgiving Day*	
	Friday	November	23, 2012	*Columbus Day*	
Week 15	Monday	November	26, 2012	§14.1 Introduction to Power Series	pg. 483
				§14.2 The Interval of Convergence	pg. 484
	Tuesday	November	27, 2012	§14.3 Differentiation and Integration of Power Series	pg. 489
	Wednesday	November	28, 2012	§14.4 Taylor Series and Taylor's Formula	pg. 494
	Thursday	November	29, 2012	§14.5 Computations Using Taylor's Formula	pg. 504
	Friday	November	30, 2012	§14.6 Applications to Differential Equations	pg. 509
Week 16	Monday	December	3, 2012	§14.7 Operations on Power Series	pg. 514
	Tuesday	December	4, 2012	§14.8 Complex Numbers and Euler's Formula	pg. 521
	Monday	December	10, 2012	**Final Exam at 12:00**	