

## Math 1N03

Week 1: Appendix D, 1.3, 1.5

- Trigonometry
- Transformation of Functions, Compositions
- Exponential Functions

Week 2: 1.6, 2.2, 2.3

- Inverse Functions and Logarithms
- Limits

Week 3: 2.5-2.9, 3.1,3.2

- Continuity
- Limits at Infinity
- Tangents and Velocities
- Derivatives
- Product and Quotient Rule

Week 4: 3.4-3.8

- Derivatives of Trig Functions
- Chain Rule
- Implicit Differentiation
- Higher Derivatives
- Derivatives of Logarithmic Functions

Week 5: 3.9, 4.1, 4.3

- Hyperbolic Functions
- Maximum and Minimum Values
- How Derivatives Affect the Shape of a Graph

Week 6: 4.4, 4.5, 4.7

- L'Hospital's Rule
- Summary of Curve Sketching
- Optimization Problems

Week 7: 4.9, 4.10, Appendix E

- Newton's Method
- Antiderivatives
- Sigma Notation

Week 8: 5.1, 5.2, 5.3

- Areas and Distances
- The Definite Integral
- The Fundamental Theorem of Calculus

Week 9: 5.4, 5.5, 6.1

- Indefinite Integrals
- The Substitution Rule
- Areas between Curves

Week 10: 6.2, 7.1

- Volumes
- Integration by Parts

Week 11: 7.2, 7.7

- Trigonometric Integrals
- Approximate Integration

Week 12: 6.4, 6.5, 8.3

- Work
- Average Value of a Function
- Applications to Physics and Engineering