Math 34B Course Outline

1 quantifiers and language
2 numerical examples of quantifiers
3 limit definitions
4 review session
5 test

6 definition of the derivative, three rules of differentiation
7 definition of integration, fundamental theorem of calculus
8 derivative rules examples, three rules of integration
9 review session
10 test

11 integration by parts, u-substitution, Leibniz notation
12 review of 11
13 optimization word problems
14 FTC word problems
15 midterm

16 trigonometric functions, manipulating graphs, notation
17 differential equations, three rules of antidifferentiation
18 separable equations and integrating factors
19 review session
20 test

21 complex numbers ("planar arithmetic") as \((\mathbb{R}^2, +, \cdot)\)
22 investigation of complex arithmetic, projection operators \(\pi_i : \mathbb{R}^n \to \mathbb{R}\)
23 partial differential operators, three rules of partial differentiation
24 review session
25 test

26 holiday
27 iterated integrals, infinite series
28 review session
29 bonus lecture: construction of \(\mathbb{R}\)
30 final