

Syllabus for Mathematics 9C.

Text: 11th edition of Thomas' Calculus by Finney, Weir and Giordano

THE REQUIRED LECTURES

Improper integrals [1.5 lectures]

8.8 Improper integrals

Sequences and Series [12.5 lectures]

4.6 L'Hôpital's Rule [Review]

11.1 Sequences

11.2 Infinite Series

11.3 The Integral test

11.4 Comparison tests

11.5 The Ratio and Root Tests

11.6 Alternating Series, Absolute and Conditional Convergence

11.7 Power series

11.8 Taylor and Maclaurin Series

Differential Equations & Applications of power series [7 lectures]

9.1 Slope Fields and Separable Differential Equations

9.2 First-Order Linear Differential Equations

9.3 Euler's method. [Optional]

9.5 Applications of First-Order Linear Differential Equations

11.10 Applications of power series

Polar Coordinates [1.5 lectures]

10.5 Polar Coordinates

10.6 Graphing in Polar Coordinates

10.7 Areas and lengths in Polar Coordinates