

Math 1551-3 Schedule of Topics

Fall 2008

This is a tentative schedule and will be updated time to time.

The section numbers refer to the text *Calculus*, by Jon Rogawski.

Week 1: Aug 25-29

1. Real Numbers
2. Real Numbers
3. Concept of Limit (2.1, 2.2, 2.8)
4. Concept of Limit
5. Algebra of Limits, Continuity (2.3,2.4)

Week 2: Sep 2-5

6. Concept of Derivative (3.1,3.2)
7. Derivatives and Continuity
8. The algebra of derivatives (3.3)
9. Working out derivatives

Week 3: Sep 8-12

10. Derivatives of Trigonometric Functions (3.6)
11. Derivatives of Trigonometric Functions
12. Derivatives of Trigonometric Functions
13. Related Rates (3.11)
14. Related Rates

Week 4: Sep 15-19

15. Rolle's Theorem
16. The Mean Value Theorem
17. The Mean Value Theorem
18. Review
19. Test 1

Week 5: Sep 22-26

20. Chain Rule (3.7)
21. Chain Rule (3.7)
22. Chain Rule (3.7)
23. Implicit Differentiation (3.8)
24. Implicit Differentiation (3.8)

Week 6: Sep 29-Oct 3

25. Derivatives of Exponential and Logarithm (3.10)
26. Derivatives of Inverse Functions (3.9)
27. Derivatives of Inverse Functions (3.9)
28. Higher order derivatives (3.5)
29. Higher order derivatives (3.5)

Week 7: Oct 6-Oct 8

30. Extreme Values (4.2)
31. Extreme Values (4.2)
32. Graph Geography

Week 8: Oct 13-Oct 17

33. Graph Geography, Asymptotes
34. L'Hôpital's Rule (4.7)
35. L'Hôpital's Rule (4.7)
36. Maxima/Minima problems (4.6)
37. Maxima/Minima problems

Week 9: Oct 20-Oct 24

38. Maxima/Minima problems
39. Newton's Method (4.8)
40. Newton's Method
41. Review
42. Test 2

Week 10: Oct 27 -Oct 31

43. Integration (5.2)
44. The Riemann Integral (5.2)
45. Fundamental Theorem of Calculus (5.3)
46. Fundamental Theorem of Calculus (5.4)
47. Fundamental Theorem of Calculus (5.4)

Week 11: Nov 3-Nov 7

48. Integration Techniques (5.6)
49. Integration Techniques
50. Integration Techniques
51. Integrals of transcendental functions (5.7)
52. Integration Techniques

Week 12: Nov 10-Nov 14

53. Integration Techniques
54. Areas
55. Area between curves (6.1)
56. Areas
57. Areas

Week 13: Nov 17-Nov 21

58. Area between curves
59. Volumes (6.3)
60. Volumes
61. Review
62. Test 3

Week 14: Nov 24-Nov 26

- 63. Volumes
- 64. Volumes
- 65. Volumes

Week 15: Dec 1-Dec 5

- 66. Surface Area
- 67. Surface Area
- 68. Other aspects and uses of integration
- 69. Review
- 70. Review

Final Examination: Wednesday, 10th December, 10am - noon.