

Spring 2008 Math 32L Syllabus

Textbook: Calculus (4th ed), by Hughes-Hallett, et al.

| Day | Section | Topic | Homework |
|------|--|--|---|
| 1-2 | <i>Course Pk</i> | Probability #1: Events | <i>Course Pack</i> /1,2,4,6,8. |
| 1-3 | <i>Course Pk</i> | Prob. #2: Random Var | <i>Course Pack</i> /1-6,9,10. |
| 2-1 | <i>Course Pk</i> | Prob. #3: Expected Val | <i>Course Pack</i> /1-3,5,8,10,11. |
| Lab: | Probability and Geometric Series | | |
| 2-2 | 9.2 | Geometric series | 9.2/1-3,5,7-9,11-13,20,21,24,26,28,31. |
| 2-3 | <i>Course Pk</i> | Series#1: (seq/partial sums) | <i>Course Pack</i> /1-4,6,7; 9.1/17,38,39; 9.2/10,14,25,32. |
| 3-1 | <i>Martin Luther King, Jr., holiday</i> | | |
| Lab: | Integrating to Infinity | | |
| 3-2 | <i>Course Pk</i> | Series#1: (n -th term test) 9.3 (through example #1) | <i>Course Pack</i> /8-10; 9.2/18,19,29; 9.3/13,22,24,28,33. |
| 3-3 | <i>Course Pk</i> | Series #3: Integral Test | <i>Course Pack</i> /1,2a,b,3a,5a,b,c. |
| 4-1 | 9.4 | Comp/Abs Conv/Lim Comp | 9.4/1-7,9,24,26-28,32,48,50,52,66; 9.3/16; <i>Course Pack</i> p202/4a,c. |
| Lab: | Normal Data Sets, Part 1; Series Worksheet, Part 1 (p 219 <i>Course Pack</i>) | | |
| 4-2 | 9.4 | Ratio Test | 9.4/10,11,14,15,34,35,44; <i>Course Pk</i> p195/6,7,9a,b,d,e,h. |
| 4-3 | <i>Course Pk</i> | Series #4: Alt. Series Theorem | 9.4/20,21,37-41,46,47,54; <i>Course Pk</i> p215/1-5,7,8; p220/10(a-d,f,k,l),11a,b,17a,b,d. |
| 5-1 | Review | | |
| Lab: | Test #1 | | |
| 5-2 | 7.1 | Integration by Substitution | 7.1/1-3,5,6,9,11,17,18,20,24,31,33,37,49-51,59, 77,81-83,87,89. |
| 5-3 | 7.5,7.6 | Approximating Definite Integrals | 7.5/1,2,10-13,21,23; 7.6/3e (<i>only with</i> $n=2,4,8$), 5c,4 (<i>only with</i> $n=2,4$). |
| 6-1 | 7.2 | Integration by Parts | 7.2/1,4,5,8,11,12,14,23,27,38,40,43,52-53. |
| Lab: | Air Pollution: Fine Particulate Matter | | |
| 6-2 | 7.4 | Alg. Identities | 7.4/1,2,8,9,20,23,24,32,35,40,57,63,64; <i>Course Pack</i> p186/5. |
| 6-3 | 7.7,7.8 | Improper Integrals | 7.7/2,4,7,9,10,17,22,29,38,43,44; 7.8/1,2,8,10,12, 19, 21,26,28,32,33; gateway practice: <i>Course Pack</i> /p225. |
| 7-1 | 8.7 | Distribution Functions | 8.7/7,8,10,11,13-17,19,20; <i>Course Pk</i> p220/10g-j,11c,d,g. |
| Lab: | Gateway Test | | |
| 7-2 | 8.8 | Probability; Distributions | 8.8/1,2,4-7,13,14. |
| 7-3 | 8.8 | Normal Distributions | 8.8/3,8-12; <i>Course Pack</i> p220/12a-c. |

| Day | Section | Topic | Homework |
|------|--|-----------------------------------|---|
| 8-1 | 8.1 | Areas and Volumes | 8.1/1,3,4,7-10,16,18,19,24,25. |
| Lab: | Normal Data Sets. Part 2 | | |
| 8-2 | 8.2 | Volume and Arclength | 8.2/10-12,18-21,28-31,36,39,41,42. |
| 8-3 | <i>Catch up day; prepare for presentation.</i> | | Work all problems in the "Background" section of the lab, <i>Present Value and Future Value</i> (on pages 109-111 of the <i>Course Pack</i>) |
| 9-1 | Lab groups present normal lab results | | <i>Course Pack</i> p220/12d-i,13,14. |
| Lab: | Present Value and Future Value | | |
| 9-2 | 10.1 | Taylor Polynomials | 10.1/1,3,5,6,17-20,22,25,28,33. |
| 9-3 | 10.1 | Taylor Polynomials | 10.1/2,13,23,26,29-31,34,35. |
| 10 | <i>Spring Break</i> | | |
| 11-1 | Review | | |
| Lab: | Test #2 | | |
| 11-2 | 9.5 | Convergence of Power Series | 9.5/1-4,7,10-14,17,21,23-25,27,30-32,35. |
| 11-3 | 10.2 | Taylor Series | 10.2/5,7,13,18-20,22,25,26,28,29,31-34,40,41,43-45. |
| 12-1 | 10.3 | Using Taylor Series | 10.3/2,8,12-14,23,26,30. |
| Lab: | Series Solutions of Initial Value Problems | | |
| 12-2 | 10.3 | Using Taylor Series | 10.3/5,6,16,20,22,29,36,40. |
| 12-3 | 10.5 | Fourier Series with period 2π | 10.5/5,6,17,23-27. |
| 13-1 | 10.5 | Fourier series review | 10.5/9-11. |
| Lab: | Fourier Analysis of Musical Sound | | |
| 13-2 | 10.5 | General Fourier Series | 10.5/12,13,19d. |
| 13-3 | 10.5 | Fourier series review | 10.5/8,14,18,20d. |
| 14-1 | 11.10 | Oscillations | 11.10/3,5,7,12-13,15,16,18,19,22-25,27. |
| Lab: | Fourier quiz (and Gateway make-up) | | |
| 14-2 | 11.8 | Predator-prey with phase plane | 11.8/2,3,5-8,11-14. |
| 14-3 | 11.8 | SIR Model with phase plane | 11.8/1,15a,16a,17a,18-20. |
| 15-1 | 11.9 | Phase Plane Analysis | 11.9/2,3,4-6,8,10. |
| Lab: | Limited Immunity in Epidemics (Part I) | | |
| 15-2 | Review of lab | | |
| 15-3 | Review for test | | |
| 16-1 | Test #3 | | |
| Lab: | Gateway test makeup | | |
| 16-2 | <i>TCE Day</i> | | |