

## SYLLABUS MATH 136

SPRING 2002

**NOTICE:** The math requirement for Calc 152 is NO LONGER met by Math 136. Math 136 is NOT for Math, Physical Science or Computer Science majors. Sections 01 through 15 are the 4 credit version; Section 71 is a 5 credit version. **Students registered for Math 136 Sec 71 must also register for Math 132 Sec 71.**

**PREREQUISITE:** Calculus: Rutgers Math 135, or Math 151, or appropriate performance on the placement test in mathematics.

**TEXT:** *Soo T. Tan, Applied Calculus* (Fifth edition), Brooks/Cole 2002 (976 pp.);(ISBN# 0-534-37843-9)

**CALCULATOR:** A Graphing Calculator is required. Graphing calculators will be used in this course for homeworks, (and for workshops in Section 71).

**DISCLAIMER:** The following was contributed by the instructor of Section 71. Other sections may have different requirements.

**EXAMS:** A formula sheet will be provided with exams. No materials other than the formula sheet provided may be used on exams. Calculators may NOT be used on exams. **Exam I** will cover sections 6.2-6.8,7.1-7.4 and 9.1-9.4. It can be expected around the end of February. **Exam II** will cover sections 10.1-10.3, and 11.1-11.6. It can be expected around the beginning of April. The **Final Exam** will be comprehensive. It is scheduled on Thursday May 9, 4:00 - 7:00 PM. The room will be announced in class. Note: Firm dates for exams will be announced in class.

**HOMEWORK PROBLEMS:** The exercises are grouped by the sections that are planned to be covered in each lecture. Students are encouraged to do them all.

## Homework Problems

- 6.2 (Integration by Substitution review) 1,3,4,11,21,28,41,50,53,55,59,62.
- 6.3 (Area and the Definite Integral review) 2,5,7,14,17.
- 6.4 (Fundamental Theorem of Calculus review) 3,7,11,14,17,21,25,28,34,35,37,40,44,46.
- 6.5 (Evaluating Definite Integrals review) 1,5,10,13,19,22,25,33,38,40,48,49.
- 6.6 (Area Between Two Curves) 1,4,6,10.
- 6.7 (Applications of Definite Integral To Business and Economics)  
1,2,5,9,11,17,21,24.
- 6.8 (Volume of Solids of Revolution) 1,2,4,8,11,14,18,20,25,27,29.
- 7.1 (Integration by Parts) 1,2,6,12,24,28,32,34,40,44.
- 7.2 (Integration using Tables of Integrals) 1,3,8,12,18,20,32,34,37,39,42.
- 7.3 (Numerical Integration) 1,4,8,14,19,22,26,32,35,37.
- 7.4 (Improper Integrals) 1,4,6,9,12,18,25,28,32,34,42,45.
- 9.1 (Differential Equations) 1,3,5,6,13,16,20,25,26.
- 9.2 (Separation of Variables) 1,3,5,6,8,10,17,21,26,32,34.
- 9.3 (Applications of Separable Differential Equations) 1,2,3,4,6,7,9,13,15,19.
- 9.4 (Approximate Solutions of Differential Equations) 1,3,4,5,9,16.
- 10.1 (Probability Distributions of Random Variables) 1,3,4,5,6,11,16,20,23,26,31,33.  
UT (pg 737) 2,3
- 10.2 (Expected Value and Standard Deviation) 1,3,6,10,16,19,21,22,23,28; UT (pg 755) 3,4,6.
- 10.3 (Normal Distribution) 1,3,6,8,13,17,21,26,30.
- 11.1 (Taylor Polynomials) 1,2,3,4,10,11,13,15,18,22,28,31,36,40,41.
- 11.2 (Infinite Sequences) 1,2,3,4,8,11,13,20,25,29,32,34,39,40,45,47.
- 11.3 (Infinite Series) 1,2,3,5,8,12,15,18,22,28,32.
- 11.4 (Power Series and Taylor Series) 1,2,3,4,8,10,14,17,25,28,32.
- 11.5 (More on Taylor Series) 1,2,3,4,6,11,14,17,22,25,26,29,31.
- 11.6 (The Newton-Raphson Method) 1,4,6,10,13,15,16,24,28,31,36.
- 8.1 (Functions of Several Variables) 1,4,7,10,13,18,20,25,27,32,36,39.
- 8.2 (Partial Derivatives) 1,3,4,6,10,18,21,25,30,31,36,40,41,44. UT (pg 623) 1,3,4.
- 8.3 (Maxima and Minima of Functions of Several Variables) 1,4,10,15,20,22,23,27,29.
- 8.4 (The Method of Least Squares) 1,4,7,10,12,15. UT (pg 647) 1,4,6.
- 8.5 (Constrained Maxima & Minima - Method of Lagrange Multipliers) 1,4,8,10,12,16,17,20,23,24.
- 8.6 (Total Differentials) 1,4,7,10,15,17,20,23,27,30,35,37,38.
- 8.7 (Double Integrals) 1,3,4,6,10,14,17,24.
- 8.8 (Applications of Double Integrals) 1,3,4,9,11,16,18,22,24,26.