Project Interphase 2004 - Group D.

Description. We will cover the same topics as in the regular 18.01 course. Normally, the students will be expected to pass Part I and/or II of the 18.01 A Advanced Placement Exam in the fall to get into 18.02. / 18.01A

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Grading Homeworks will be due each week (day to be assigned) and there will be two in class exams and a final exam. The total grade will be based 30 % in the homeworks, 20 % in each in-class exam and 30 % in the final exam.

Text. Edwards and Penney - Calculus with Analytic Geometry (fifth edition).

Syllabus

Part I - Review of Limits and Differentiation.
1. Wed 6/30 - Limits, Continuity.
2. Fri 7/02 - Derivatives. Basic rules of differentiation. Derivatives of polynomial, exponential and trigonometric functions.
3. Mon 7/05 - Implicit differentiation.
4. Wed 7/07 - Review of Implicit differentiation, related rates.
6. Fri 7/09 - Related rates problems, applications of implicit differentiation.
7. Mon 7/12 - Min-Max problems.
8. Wed 7/14 - Review. Exam.
9. Fri 7/16 - Curve Sketching.
10 Mon 7/19 - Review Part I.

Part II - Integration.

11. Wed 7/21 - Antiderivatives. Method of substitution.
12. Fri 7/23 - Riemann sums, definite integrals, numerical methods
13. Mon 7/26 - Fundamental theorem of calculus. Applications: computation of areas between curves.
14. Wed 7/28 - Review fundamental theorem of calculus.
15. Fri 7/30 - Work and Arc-length.
Review work, arc-length, mean values.
16. Mon 8/2 - Applications: Surface areas.
17. Wed 8/4 - Polar coordinates. Parametric curves.
18. Fri 8/6 - Computations in polar coordinates
19. Mon 8/9 - Review. Exam.
20. Wed 8/11 - Further techniques: Partial fractions, integration by parts.
21. Fri 8/13 - Integration by parts. Review.
22. Mon 8/16 - Improper integrals.
23. Wed 8/18 - Infinite Series - examples, comparison test.