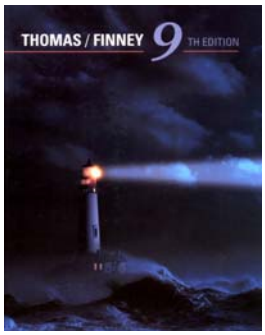
THE SCHILLING SCHOOL FOR GIFTED CHILDREN

2008-2009 Academic Year



CALCULUS / POST CALCULUS

Dr. Douglas G. Frank, Instructor

CLASS TIME: Monday & Wednesday Mornings

TEXT: Calculus and Analytic Geometry (9th Edition)
by George B. Thomas and Ross L. Finney

OUTLINE AND OBJECTIVES: After several introductory classes to review material and establish ability, philosophy, and intuition, students will systematically progress through Finney at differentiated paces. Much of what we learn will be immediately applied in our *Applied Science and Mathematics* course, and the classes will often be integrated.

The students enrolled in this class appear to be divided into two primary groups; some with experience in calculus, and some with very little. Levels of experience will be established, and the class will progress in a differentiated fashion.

Some initial material will include:

- Mathematics vs. Arithmetic
- Mathematics as Language
- Thinking in Calculus
- Applications of the Calculus
- Simulating Calculus with spreadsheets, Practical Computing
- Exploration of differential and periodic phenomena

Students will be required to keep notes in class, and will turn in homework on three-hole punched paper each Monday for credit. Homework will be assigned from the text, with additional challenge problems that I will assign <evil grin>. Exams will be given approximately every three weeks, with pop-quizzes. Grades will be based equally on exams and homework.

Important: Students MUST bring to each class:

- Three-ring binder and paper
- Sharpened pencils or mechanical pencil and erasers
- Calculator (graphing calculators discouraged. A $10 science/engineering calculator will be fine.)
- Textbook

Laptops are optional, but are welcome and encouraged.

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