

MA311 CALCULUS III

Fall 1998

TR 11:00 – 12:20pm & TBA HH39

INSTRUCTOR: DR. CHOCK WONG



Office: Henry Hall 018 (Phone: 739-4682)

Office Hours: MWF 10:00–10:50am, TH 1:00-2:00pm. Or by appointment.

Course Description: This course is the third part of the calculus sequence. It covers the differentiation and integration for functions of several variables. Topics include vectors and vector calculus, partial derivatives, total differential, gradients and directional derivatives, extreme values and second partial test, multiple integrals, cylindrical and spherical coordinates, line and surface integrals, Green's theorem and Stokes' theorem, and applications of integrals.

Prerequisites: MA211 or equivalent, or consent of the instructor.

Text Book: Multivariable CALCULUS (5th edition). By Larson / Hostetler / Edwards. *D.C. Heath & Company*. ISBN 0-669-39345-2.

Objectives! Students who successfully complete the course will be better prepared for a large variety of upper level courses in natural science, engineering, and advanced mathematics. Students may also get familiar with several mathematical computer packages with symbolic computation and graphics features. The course will cover most sections from Chapter 10 to 15 of the text.

Homework: For each section covered, a certain number of problems (mostly odd-numbered) will be assigned for practice purpose. In addition, there will be assignments, selected from the textbook or designed by the instructor and including computer lab-work, to turn in for grading.

Quizzes and Exams: Four *Unit Tests* will be given as scheduled below:

- Unit Test 1: Covers Chapter 10 & 11, on Week 4;
- Unit Test 2: Covers Chapter 12 & §§13.1 – 13.5, on Week 8;
- Unit Test 3: Covers §§13.6 – 14.3, on Week 11;
- Unit Test 4: Covers §§14.4 – 14.8, on Week 14.

Short-quizzes may also be given whenever they are needed. And an accumulated *Final Exam* that covers most chapters will be at the end of the semester.

Grading:

HOMework: 20% of the total
TESTS/QUIZZES: 50% of the total
FINAL EXAM: 30% of the total