

Textbooks: *Calculus: The Analysis of Functions*
by Peter Taylor (Wall and Emerson)
Student Solution Manual
by Sumit Oberai *et al*

Prerequisite: OAC Calculus *or* MATH-006* *or* equivalent.

Intended Students: Students considering concentrations in Economics or Biology

Coordinator: P. Taylor

Instructors: Section A: P. Li
Section B: B. Fodden (Fall); V. Bobko (Winter)

Evaluation:	3 Module Tests (5% each)	15%
	10 Assignment Tests (2% each)	20%
	Mid-year Examination	20%
	Final Examination	45%

Outline:

There are two lectures per week, and the third hour serves as a Lab. The evaluation is composed of three parts.

1. *The mastery of technical skills (15 marks).*
There are three modules worth 5 marks each. Each module is tested on two occasions, a test consisting of 9 problems from the module sheet.
2. *Assignments and Quizzes (20 marks).*
About every two weeks problems are assigned based on the material in the lectures. Short quizzes are held during class on opposite weeks.
3. *Exams (65 marks).*
Two examinations: a midyear and a final.

The themes of the course are building models of physical and behavioural phenomena, and solving optimization problems (max profit, min time, optimal allocation of resources) involving input functions, both geometrically and analytically. Particular topics include: partial derivatives, Lagrange multipliers, exponential growth and decay, the logarithm, the integral, area under a rate graph, the average value of a function, continuous and discrete probability.