

Course Announcement: **APM 533**

Title of Course: Mathematical Population Biology

Instructor: **Fabio Milner**

Class Number: 85644

Location/Time: LL 112 T/TH, 9:00 - 10:15

COURSE DESCRIPTION:

A broad spectrum of techniques and models in population biology will be covered, including matrix analysis for discrete population models, dynamical systems for unstructured population (scalar) and multi-group models (systems: epidemics, interacting populations), delay differential equations, partial differential equations for structured population and epidemic models, and some Volterra integral equation theory for the study of population renewal and asymptotic behavior. There will be many applications and examples from real life, including human demography, human epidemics, ecological interactions, and plant diseases. Many of the topics can evolve into a comprehensive examination and/or doctoral dissertation, in the form of theoretical problems, applications, or combinations of them.

PREREQUISITES:

Graduate student (degree seeking or non-degree seeking)

TEXTBOOK: