

Catalog Description:

Homogeneous and non-homogeneous difference equations, Markov chains, graph theory, network flows, linear programming.

Prerequisite:

{C- or better in 2568 or 5520H; and C- or better in 4530, 5530H or Stat 420}; or {credit for 568, 571, or 520H; and credit for 530, 531H, or Stat 420}.

Exclusions: Not open to students with credit for 578.

Topics List:

- 1. Homogenous and non-homogeneous difference equations.
- 2. Application of Markov chains with absorbing and non-absorbing states, limiting behavior.
- 3. Hidden Markov models.
- 4. Graph theoretical algorithms, network flows, applications.
- 5. Linear/integer programming.

<u>Comment</u>:

This course requires the student to use a programming language chosen by the instructor to complete required coursework. Prior programming experience is not required.