CS 6110 AUTOMATA AND COMPUTABILITY THEORY

Semester Hours: 3.0
Coordinator: TBD
Text: TBD
Author(s): TBD
Year: TBD

Contact Hours: 3

SPECIFIC COURSE INFORMATION

Catalog Description:
Mathematical models for algorithmic processes, such as finite automata and Turing machines. Limitations of such models.

Course type: Elective

SPECIFIC COURSE GOALS

- TBD

LIST OF TOPICS COVERED

- Finite-State Machines
  - Various models for finite-state machines
  - Applications to neural nets
  - Limitations of such models
- Infinite Machines
  - Turing machines
  - Variations of the Turing machine model
  - Universal Turing machines
  - Unsolvability of the halting problem
  - Reducing one unsolvable problem to another
- Other Models of Computation
  - Primitive-recursive, total-recursive, and partial-recursive functions
  - Enumeration of partial-recursive functions
  - Other models as time permits
  - Equivalence of the models of computation