THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

# Stochastic Processes

## ISE 7300

**Credit Hours:**
3.00 - 3.00

**Course Levels:**
Graduate

**Course Components:**
Lecture

**Course Description:**
Stochastic processes commonly used in Industrial and Systems Engineering, including renewal processes and continuous time Markov chains.

**Prerequisites and Co-requisites:**
Prereq: 6300 or equivalent.

**Course Goals / Objectives:**
- Develop an intuitive, yet mathematically correct, understanding of stochastic processes used in ISE models
- Identify appropriate stochastic process models for a given problem context
- Provide logical and coherent analyses based on chosen model

**Course Topics:**
- Review of Probability and Stochastic Processes
- Discrete Time Markov Chains
- Poisson Processes
- Renewal Theory
- Continuous-Time Markov Chains
- Semi-Markov Processes

**Designation:**
Elective