

**GRADUATE COURSE TITLE:**  
**STOCHASTIC OPERATIONS RESEARCH**

**INSTRUCTOR:**  
Professor Angelos Protopapas

**SYLABUS:**

The course has as main objective to present methods for making decisions under uncertainty. Emphasis is given in advanced theory of mathematical programming and optimal control with application to integrated planning and operation of technical systems. Introduction – Basic concepts of probability theory. Decision trees. Stochastic linear, nonlinear, and dynamic programming, linear quadratic control.

**BIBLIOGRAPHY:**

1. Bertsekas Dimitri P. (2001), *Dynamic Programming & Optimal Control*, 2nd Edition, Athena Scientific, ISBN: 1-886529-08-6.
2. Rao Singiresu S. (2009), *Engineering Optimization: Theory and Practice*, 4th Edition, Wiley, ISBN: 978-0-470-18352-6.