

# **Operations Research (OR)**

## **Course Overview**



**BINGHAMTON**  
UNIVERSITY

## Topics

- Linear Programming and the Simplex Method
- Sensitivity Analysis and Duality
- Transportation, Transshipment, and Assignment Problems
- Network Models
- Integer Programming
- Nonlinear Programming
- Decision Making under Uncertainty
- Game Theory
- Inventory Theory
- Markov Chains
- Dynamic Programming
- Queuing Theory

## Target Audience and Prerequisites

- Upper-level **undergraduate students** (Juniors and Seniors)
- **Graduate students** majoring in industrial engineering, systems science, computer science, mathematics, business, management science, and economics
- **Other students** who need an overview of the main topics in operations research and management science
- **OR professionals** in various industries
- **Algebra, Calculus, Probability, and Statistics**



## Textbooks

- **Wayne Winston**, Operations Research: Applications and Algorithms, 4th Edition, 2004
- **Frederick Hillier, Gerald Lieberman**, Introduction to Operations Research, 10th Edition, 2014
- **Hamdy Taha**, Operations Research: An Introduction, 9th Edition, 2011

## OR Journals and Papers

- **Journal Citation Report** (Subscription)
  - (<http://jcr.incites.thomsonreuters.com>)
- **SJR Journal Ranking** (Free)
  - (<http://www.scimagojr.com>)
- **Web of Science** (Subscription)
  - (<http://apps.webofknowledge.com>)
- **Science Direct** (Subscription)
  - (<http://www.sciencedirect.com>)
- **Google Scholar** (Free, sometimes)
  - (<http://scholar.google.com>)

## OR Society and Conferences

- **IISE** Industrial & Systems Engineering Research Conference (ISERC)
  - May 20-23, 2017, Pittsburgh, Pennsylvania
  - May 19-22, 2018, Orlando, Florida
  - May 18-21, 2019, San Juan, Puerto Rico
- **INFORMS** International Conference
  - Jun. 12-15, 2016, Waikoloa, Hawaii
  - Jun. 9-12, 2019, Cancun, Mexico
- **INFORMS** Annual Meeting
  - Oct. 22-25, 2017, Houston, Texas
  - Nov. 4-7, 2018, Phoenix, Arizona
  - Oct. 20-23, 2019, Seattle, Washington



## Operations Research Analyst

- Indeed.com
  - (<https://www.indeed.com/jobs?q=operations+research+analyst>)



- Some statistics from U.S. Dept. of Labor
  - (<http://www.bls.gov/oes/current/oes152031.htm>)

