

UB - Department of Industrial and Systems Engineering  
IE 677 Network Optimization  
Fall 2010

## 1 COURSE CONTACT

- Class Meetings: M W, 5:00 PM - 6:20 PM (4 Clemens Hall)
- Course Website: <http://ublearns.buffalo.edu>
- Instructor: Dr. Changhyun Kwon
  - E-mail: [chkwon@buffalo.edu](mailto:chkwon@buffalo.edu)
  - Office: 400 Bell Hall
  - Office hours: Tue 1:00 PM - 2:30 PM, or by appointment
  - Phone: 716-645-4705 (Office)

When you email the instructor, you need to include your name and the course number (IE 677). Please state “IE 677” in the subject of your email message. Also, it is very helpful to set up your email client correctly so that your email message has your name as the sender. If you use `ubmail.buffalo.edu`, go to “Settings” and correct “Displayed Name” field.

## 2 PREREQUISITES

- Linear Programming (IE 572 or equivalent)

## 3 REQUIRED TEXTBOOK

- Bazaraa, Jarvis and Sherali, *Linear Programming and Network Flows*, 4th Edition, Wiley, 2010.

## 4 ADDITIONAL REFERENCES

- Bertsekas, *Network Optimization: Continuous and Discrete Models*, Athena Scientific, 1998
- Ahuja, Magnanti and Orlin, *Network Flows: Theory, Algorithms, and Applications*, Prentice Hall, 1993

## 5 TOPICS COVERED

- Backgrounds on Graph and Network
- Network Flow Problems
- Network Simplex Method
- Transportation Problem
- Assignment Problem
- Out of Kilter Algorithm
- Max Flow Problem
- Shortest Path Problem
- Project Networks
- Nonlinear Network Optimization Topics

## 6 GRADING

- 40% Homework Assignments

- 30% Mid-term Exam
- 30% Final Exam

## 7 POLICY

- Homework assignments must be done independently.
- Late homework will be downgraded by 30%.
- Homework will be accepted late only if prior approval is given by the instructor.
- The UB Academic Integrity Policies will be followed. Visit <http://academicintegrity.buffalo.edu/>