620-362: Applied OR

- Lecturers: Moshe Sniedovich, Heng-Soon Gan
- Prerequisites: 620-361 or 620-262.
  - Also recommended is 620-131 or Computer Science 433-141.
  - Good 620-261 students are welcome
- Format:
  - 36 lectures (three per week)
  - 12 practice class (one per week, 4:15-5:10, Tuesday)
- Office HRS
  TWF 2-3PM
- WWW: visit the subject website regularly
  www.ms.unimelb.edu.au/~moshe/620-362

Assessment

- Assignments (4-5 instalments): 10%
- Mid-semester test (90 minutes): 50%
  - October 9, 2007 (3:20-5:00 PM)
  - No Sup test
- 2 Projects: 40%
  - “Real world” problem (20%)
  - “Academic” study (20%)

Courseware

- Lecture slides
- Handouts
- Winston’s book (MS Library)
- XPRESSIVE
- Web modules (tutOR)

Projects

- Teams: 5 persons per team
  - Deadline (via e-mail): August 3, 2007
- Assessment:
  - Content
  - Report
  - Presentation
- It is the right time to choose your team-mates.
- Real-world project: the same for all teams
- Academic project: different for each team
  - Selection by bidding
- 2 lectures are planned on
  - Effective presentation
  - Report writing
Academic Projects

- Simulated Annealing
- Tabu Search
- Neural Networks
- Genetic Algorithm
- Ant Colony
- Constraint Programming
- Soft OR
- Modeling Languages

20 points to bid

Bidding session: 4:15-5:10 PM, August 14, 2007

Real-World Project

- Teams (deadline, via e-mail: August 3, 2007)
- Leftovers will be grouped alphabetically
- First interview (office Hrs): Week 3 (August 6-10, 2007)
- OK to create a website ….

All aspects of the project, including client interviews, will influence the final mark.

Visit the website regularly

Content

- OR Modeling
- Advanced Topics in Linear Programming
- Integer Programming
- Network models
- Dynamic programming (????)

Assumed Background

- Linear Programming:
  - Simplex (620-261)
  - Sensitivity and parametric analysis (620-261, 620-262)
- Dynamic programming: (620-261)
  - Shortest path problem
  - Knapsack problem
- Nonlinear programming (just a bit of 620-361)
- Common sense
- Open mind
Style

- Informal
- Active participation of students

Schedule Highlights

- Week 1: Review (OR Modeling and Simplex)
- Week 4: Bidding for the academic projects (August 14, 2007)
- Week 5-6: Computer Modeling Tool and Solver (XPRESS)
- Mid-semester test: October 9, 2007
  - No sup test
- Week 10: Technical writing/presentation
- Week 11-12: Presentations of projects (app 30 min/project)

Visit the website regularly

Reminder

- This is a 3rd year subject …
- You are expected to attend all lectures/labs
- You are expected to be (academically) active in the lectures
- Warning:

  The Real-World project is meant to be a bit ambiguous!

Thou Shall Not
Thou Shall Not

13

Thou Shall Not

14

Thou Shall Not

15

Thou Shall Not

16
Student Representative (SSLC)

- Pizza!!!!!
- Two meetings
- Questionnaire

Web Site

Computer Literacy