

## **Homework: Backhaul Vehicle Routing**

### **1. Vehicle Routing Design.**

Construct the lowest distance routes for the backhaul vehicle routing problem for which the data files are archived in isye\_3101\_vehicle\_routing\_fall\_2000.zip. The archive contains a file with the project data (.dat), depot, customer, and supplier data (.dep, .cus, .sup), and a picture of the facility locations (.png). The archive is available from my web page. Prepare an executive summary which gives the total length of all the routes and for each route lists the number of customers, the customers on the route in sequence of the route, the total demand delivered, the number of suppliers, the suppliers on the route in sequence of the route, and the total supply picked up. You can use any software or algorithm you desire, but you cannot enlist any help of people outside your group beside the teaching assistant and myself. Part of the grade will be based on the length of the routes that you created and the shorter the total length the better the grade will be.

The report for this vehicle routing problem is due on Wednesday, November 1, 2000 at the beginning of the lab period. There will be question and answer session on Wednesday, October 25, 1999 at the beginning of the lab period.

The report and your presentation should contain a title page, an executive summary, and a drawing to scale of your routes. Furthermore, describe clearly the algorithms and the sequence of algorithmic steps that you have followed to arrive at this solution. Follow the instructions in the syllabus regarding report preparation and presentations carefully and completely. Be prepared to present and discuss your report during the lab period.

\\Courses\\ISyE 3101\\ISyE 3101 Homework Backhaul Vehicle Routing.doc, Version 1.0, October 17, 2000.