Data Analysis in Construction Management
CNST 6308

General
Course Instructor: Dr. Lu Gao
Course Time: 10:00-1:00 am Wednesday
Contact Hours: Email: lgao7@uh.edu
                       Tel: 713-743-4436

Course Description
This course will cover the application of data science in construction management and asset management. The models will include both machine learning and optimization approaches. A variety of computer languages will be used including MATLAB, Python and R.

Course Prerequisites
Graduate standing or consent of instructor.

Textbook
No Textbook required.

Tentative Course Topics
1. Linear programming
2. Mixed integer programming
3. Nonlinear programming
4. Discrete choice model
5. Machine learning
6. Panel data analysis
7. Infrastructure performance modeling and management

Academic Honesty
The instructor reserves the right to adjust letter grades, upward only, based on individual attendance and class participation if numerical grade warrants such consideration. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from The University. Since dishonesty harms the individual, all students, and the integrity of The University, policies on scholastic dishonesty will be strictly enforced.

Students with Disabilities
University of Houston provides, upon request, appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Center for Students with Disabilities (713/743-5400) for more assistance.

Grading

The course work will consist of exams and homework assignments. The components of the final grade are:

- Homework 70%
- Term project 30%

Course/Instructor Evaluation
A course/instructor evaluation will be conducted in class during the last scheduled lecture. Any suggestions you have on improving the course, however, are welcome throughout the term.

UH CAPS Statement
Counseling and Psychological Services (CAPS) can help students who are having difficulties managing stress, adjusting to the demands of a professional program, or feeling sad and hopeless. You can reach CAPS (UH main campus www.uh.edu/caps, or UH Sugar Land campus http://www.uh.edu/dsaes/uhsugarland/) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. No appointment is necessary for the "Let's Talk" program, a drop-in consultation service at convenient locations and hours around campus.
UH main campus http://www.uh.edu/caps/outreach/lets_talk.html
UH Sugar Land campus http://www.uh.edu/dsaes/uhsugarland/

For detailed information about Disabilities, Religious Holy Days, the Academic Calendar, and Academic Honesty, and other information, please visit the UH website: http://www.uh.edu/provost/stu/stu_syllabsuppl.html