ISyE 3039R – Methods for Quality Improvement

1. Instructor: Dr. Jye-Chyi (JC) Lu

2. Class time: 8:30 – 9:30 am on GTL Teaching Days


   We will use notes from the materials posted in Canvas.

4. Office Hours and Office: 10:30 – 11:30 am in Teaching Days at GT-Lorraine

5. Email: jclu@isye.gatech.edu (JCLU) (main contacting method)

6. Class web page: See Canvas for course materials

7. Software package: Excel, Minitab, R and other publically available statistical packages

8. Catalog Description: Methods, primarily statistical, used to design products and systems and to monitor output to assure quality. Topics include quality system requirements, designed of experiments (DOE), process capability analysis, measurement capability, statistical process control (SPC) and acceptance sampling plans. Lab exercise required data collection and application of methods for manufacturing equipment/processes.

9. Course Outcomes

   a) Understand problems and their impacts, formulate problem solving strategies, and design data collection plans;

   b) Validate collected data, select and benchmark underlining processes;

   c) Perform preliminary data analysis and suggest improvement plans;

   d) Conduct statistically designed experiments, perform primary data analysis and design follow-up experiments to confirm recommended actions;

   e) Present studied results, document accomplishments and prepare reference reports.

10. Class Subjects:

    a) System Modeling (Exam #1 - 28%),  b) Design of Experiment (Exam #2 – 25%),
    c) Statistical Process Control (Exam #3 – 28%),  d) Semester Project (15%),
    e) Attendance and Class Participation: 3% (attendance will be checked every lecture; students are allowed up to 3 missing attendance), and f) Instructional Survey (1%)