MSE-404 Design of Experiments & Data Analysis

Credit Hours: 3-0

Pre-requisites: None

Course Objectives

- Develop understanding of the subject

Course Contents

- Statistics review, control charts; design and analysis of experiments
- ANOVA, Factorial experiments
- Response surface modeling, regression, yield modeling
- Advanced process control: spatial modeling, run-by-run control, real-time control
- Six sigma analysis, risk analysis and management; reengineering and process design

Course Outcome

- Design and analysis of experiments
- ANOVA
- Factorial experiments
- Response surface modeling, regression, yield modeling, Advanced process control: spatial modeling, run-by-run control, real-time control
- Six sigma analysis
- risk analysis and management
- reengineering and process design

Suggested Books

- Jiju Antony, *Design of Experiments for Engineers and Scientists, Revised Edition Butterworth-Heinemann, 2003*
- Robert O. Kuehl *Design of Experiments: Statistical Principles of Research Design and Analysis, 2nd Edition, Duxbury/Thomson Learning, 2000*