INMGT-625 Planned Experimentation for Quality Improvement

Catalog Description:
Quality improvement through planned experimentation that focuses on product realization activities which consist of new product design and formulation, manufacturing process development and improvement.

Course Objectives
Upon completion of this course the student will be able to comprehend and apply both qualitative and quantitative tools to planned experiments that focus on product realization activities which consist of new product design and formulation, manufacturing process development and improvement.

The students will be able to:
• Design and analyze experiments that focus on product realization activities.
• Describe and apply qualitative and quantitative tools to identify quality or design characteristics needed for product, manufacturing process and service improvement.
• Identify and prioritize opportunities for improvement using experimentation and development of mathematical models
• Determine the most influential inputs that affect the product and manufacturing process performance characteristics
• Determine the main and interaction effects of different inputs on the product and manufacturing process performance characteristics
• Evaluate and compare product and manufacturing process design configurations
• Develop a product or manufacturing process that is minimally affected by external sources of variability.
• Improve product and manufacturing process performance characteristics using graphical method
• Design, conduct, and implement an experiment using all concepts of the course.