Description
In this three-credit, 15-week online graduate course, redesign a business or industrial process at work using the Define, Measure, Analyze, Design, Optimize and Verify (DMADOV) framework. You will be exposed to the Design for Six Sigma (DFSS) philosophy. Employ statistical methods for Design of Experiments (DOE), Theory of Innovative Problem-Solving, and establishing Key Performance Indicators (KPIs).

This course establishes the foundation of the DFSS process. You will conduct the first phase of your process redesign at work, while the second will be completed in the final course of the certificate.

Projects
Phase 1: Define
Create a vision statement to define your integration strategy and cost-benefit analysis as you prepare your business case. Use the Kano model to identify Voice of Customer (VOC) satisfaction, and learn cultural change management techniques including Kotter, GRPI, In/Out Frame and RACI.

Phase 2: Measure
Apply the TRIZ (Innovative Problem-Solving) model for data collection & statistical calculations to solve complex problems. Use MINITAB for screening and conducting a full factorial Design of Experiment (DOE).

Phase 3: Analyze
Use statistical calculations with MINITAB to yield a baseline sigma value. Learn how to create KPI scorecards and dashboards. Develop a conceptual design using tradeoff analysis to establish benchmarks.

Outcomes
Completion of the course enables you to:
- Conduct a cost-benefit analysis to quantify, in dollars, the costs and benefits of your new process
- Determine the statistically significant factors that can produce undesirable variation
- Create a validated conceptual design of your new process
- Develop a business case to secure funding and resources
- Establish a communication cell to measure the success of your ongoing process creation
- Leverage management tools to lead cultural change necessary for the introduction of a new process

Technology
This course is offered through the Rensselaer Studio, providing ease of access to all course technologies and software required, any time, anywhere. Synchronous sessions are held via Zoom.

Have questions about the course? Schedule a time to chat with Rensselaer