THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Lean Sigma Foundations

ISE 5810

Credit Hours:
4.00

Course Levels:
Undergraduate (1000-5000 level)
Graduate

Course Components:
Lecture

Course Description:
Comprehensive foundation course that is required to complete Green and Black Belt Certification.

Prerequisites and Co-requisites:
Prereq: Enrollment in MEM or MGEL or permission of instructor

Course Goals / Objectives:
- Be prepared to successfully complete a DMAIC Process Improvement Project in the `real world?
- Be exposed to a broad spectrum of DMAIC projects from a variety of businesses. Real time, in-flight project reviews
- Have a comprehensive understanding of the DMAIC `roadmap? or methodology, stage by stage, step by step.
- Strengthen their project management skills by creating a detailed project plan for a process improvement project
- Continue development of professional writing and presentation skills.
- Be capable of developing and delivering `toll-gate? (project milestone) meetings for senior executives for a project
- Have opportunities to practice and develop skills for core ISE courses such as Statistical Process Control, Design of Experiments, Production Systems Management, Human Factors Engineering, Operations Research, Work Measurement.

Course Topics:

- Introduction to Quality and Productivity Improvement 3
- DEFINE—selecting, scoping, defining the problem in the context of the larger system
- MEASURE—measurement system analysis, measurement planning, value stream mapping, current state process capability, initial root cause analysis. Lean Physical Simulation Lab (Saturday)
- ANALYZE—exploratory and confirmatory data analysis on root causes, future state initial conceptual design. Six Sigma (variation improvement) Physical Simulation Lab (Saturday)
- IMPROVE—Solution Element Identification, Design, and Development. Pilot testing. Implementation and Evaluation Planning.
- CONTROL—sustainability assurance, business case realization.

Designation:
Elective