



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

LeanSigma Certification Project II

ISE 5812

Credit Hours:

3.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate

Course Components:

Lecture

Recitation

Lab

Course Description:

Focuses on industry sponsored Lean Sigma DMAIC Certification Projects. Improve and Control are the phases covered in this course.

Prerequisites and Co-requisites:

Prereq: 5811

Course Goals / Objectives:

- Reduce to practice the Lean Sigma DMAIC methodology (Scientific Method tailored for process improvement) and ISE core curriculum principles and methods.
- Be exposed to a broad spectrum of DMAIC projects from a variety of businesses. Real time, in-flight project reviews (e.g. similar to `rounds? in a teaching hospital) are done weekly.
- Develop and refine skills to apply the DMAIC methodology and drive through realization of a significant process improvement project.
- Strengthen their project management skills by creating and working with a `living? project plan.
- Develop writing and presentation skills through five tollgate/milestone meetings, a Final Tollgate Article, an industry standard final report and final tollgate presentation, and a poster depicting the life cycle of the project.
- Develop and deliver `toll-gate? (project milestone) meetings for senior executives for a project and enhance confidence and professional meeting management skills.
- 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.
- Demonstrate reduction to practice skill for a broad set of process improvement and ISE tools and must demonstrate competence in at least one advanced Lean and Six Sigma method/tool.
- a) GE Reflectn Booknd LO: Engaged Citiznshp & Intercultural Competency: Studnts consider public health, safety, welfare, global, cultural, social, environmental, & econ factors in applying eng design to produce solutions meeting specified needs.
- b) GE Reflectn Booknd LO: Personal & Professional Development: Students individually assess and pursue personal professional growth in concert with project requirements and personal career goals.
- c) GE Reflectn Booknd LO: Cultivate Engineering Mindset: Students develop an engineering mindset that demonstrates constant curiosity, makes connections between disparate bodies of information, and seeks opportunities to create value.

Course Topics:

- IMPROVE—Design, Development and Testing/Evaluation (as appropriate / required) of Solution Elements that follow from the Analyze/Design Stage
- CONTROL—Development of a Control Plan, Development of ‘sustainability’ measures to ensure that improvements are lasting, evaluation studies.
- REALIZATION and PROJECT CLOSE OUT—development and approval of a business case for the project, sponsor sign-off, completion of all certification and project deliverables and final defense.

Designation:

Elective