

Master Syllabus

OPT 2240 - Six Sigma: Green Belt

Division: Science, Mathematics and Engineering

Department: Operations Technology

Credit Hour Total: 3.0

Lecture Hrs: 2.0 **Lab Hrs:** 2.0

Date Revised: October 2013

Course Description:

An applied introduction to Six Sigma using problem-solving tools, concepts and methodology to improve customer satisfaction. Includes application of Green Belt-based tools to reduce costs and improve business processes. Two classroom, two lab hours per week.

General Education Outcomes:

- ▣ Oral Communication Competency
- ▣ Written Communication Competency
- ▣ Critical Thinking/Problem Solving Competency
- ▣ Values/Citizenship/Community Competency
- ▣ Computer Literacy Competency
- ▣ Information Literacy Competency

Course Outcomes:

Large improvements

Provide the path and method for large improvements very quickly.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students score 70% or better on exams.

Assessment Method: Portfolios

Performance Criteria: 70% of students score "70" or better on project rubric

Decision making data

Use facts, data, and statistical analysis for decision making.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students score 70% on exams.

Assessment Method: Portfolios

Performance Criteria: 70% of students score a "70" on project rubric

Define, Measure, Analyze, Improve, and Control (DMAIC) Methodology

Use Six Sigma tools to define, measure, analyze, improve and control processes for customer deliverables.

Assessment Method: Locally developed exams

Performance Criteria: 70% of students score 70% on exams.

Assessment Method: Portfolios

Performance Criteria: 70% of students score "70" on project rubric

Outline:

Making Six Sigma Pay off
The Define, Measure, Analyze, Improve, and Control (DMAIC) method
Value stream mapping
Return on investment and project proposals
Pareto charts and fish bone diagrams
Lean manufacturing techniques
Office process improvement and Research & Development tax credit