

## 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

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### 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