Syllabus

SST 233 Introduction to Process Improvement

General Information

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Department
Science and Technology

Course Prefix
SST

Course Number
233

Course Title
Introduction to Process Improvement

Course Information

Credit Hours
3

Lecture Contact Hours
3

Lab Contact Hours
0

Other Contact Hours
0

Catalog Description
The basis of this course is Lean Six Sigma techniques. Students learn the history of Six Sigma, introduced to industry in the late 1980's, as a methodology that focuses on minimizing process variation. The course also covers Lean, a process that focuses on eliminating waste and streamlining operations. Lean Six Sigma, a more recent technique combines the two processes. Students are prepared for the data driven decisions they will make in their careers in the Cyberphysical industry, as Lean Six Sigma provides a powerful tool to make improvements in any business.

Prerequisites
None

Co-requisites
None

Grading Scheme
Letter

First Year Experience/Capstone Designation

This course DOES NOT satisfy the outcomes applicable for status as a FYE or Capstone.

SUNY General Education

This course is designated as satisfying a requirement in the following SUNY Gen Ed category
None

FLCC Values

Institutional Learning Outcomes Addressed by the Course

Vitality | Inquiry | Perseverance | Interconnectedness

Course Learning Outcomes

Course Learning Outcomes

1. Identify Lean Six Sigma principles and practices
2. Implement Lean Six Sigma principles in sample manufacturing operations.
3. Utilize DMAIC in analysis of operational processes

Program Affiliation

This course is required as a core program course in the following program

AAS Instrumentation and Control Technologies

Outline of Topics Covered

I. Be able to explain the origins and history of Lean Six Sigma.
II. Defining Lean and Six Sigma and how they relate to one another.
III. Quantify cost and defect reduction.
IV. Understand how the Lean Six Sigma process is applicable to both Manufacturing and Service.
V. Understand Voice of the Customer.
VI. Define the basic concepts and tools of Define, Measure, Analyze, Improve, and Control (DMAIC).
VII. Demonstrate the ability to use the DMAIC tools.
VIII. Understand the Lean Six Sigma application process through case studies.
IX. Statistical Tools and the use of Minitab (mean, standard deviation, charts and graphs, population parameters vs. sample statistics, normal distribution, t distribution, confidence intervals, hypothesis testing, and ANOVA)
X. Complete a case study project.