

University of Arkansas - Fort Smith  
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## General Syllabus

### PRFS 4813 Lean Six Sigma Improvement

Credit Hours: 3

Lecture Hours: 3

Laboratory Hours: 0

Prerequisite: PRFS 4433 Quality Systems and one of the following: senior standing or consent of department head.

Effective: 2021-2022

## I. Course Information

### A. Catalog Description

Study of Lean Six Sigma concepts to optimize a business operation by reducing waste and variation. Tools used in course activities include the DMAIC process, Value Stream Mapping, workplace organization, and analysis of variation. Students will learn how to manage a Lean Six Sigma implementation.

## II. Student Learning Outcomes

### A. Subject Matter

Upon successful completion of this course, the student will be able to:

1. Appraise business problems and construct an improvement plan using the tools and techniques of Lean Six Sigma.
2. Support and defend the value of using Lean Six Sigma for decreasing defects, variation, and waste in order to improve costs, quality, and operations.
3. Develop charts and graphical techniques to evaluate operations performance.
4. Develop methods to collect and analyze operational data.
5. Develop a Lean Six Sigma implementation plan for a theoretical company.

### B. University Learning Outcomes

This course enhances student abilities in the following areas:

#### Analytical Skills

#### Quantitative Reasoning

The student will apply mathematics skills to solve problems related to course concepts.

**Communication Skills (written and oral)**

The student will express ideas and concepts through descriptive writing assignments.

**III. Major Course Topics**

- A. The Value of Lean Six Sigma
- B. The DMAIC Process for Quality
- C. Understanding Customer Requirements
- D. Lean Six Sigma Tools
- E. Using Data to Analyze Performance
- F. Analyzing and Interpreting the Data
- G. Process Control and Capability
- H. Value-Added and Non-Value-Added
- I. Value Stream Mapping
- J. Running Rapid Improvement Events
- K. Measurement System Analysis
- L. Standardizing Processes for Lasting Success