

**University of Arkansas - Fort Smith**  
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**Fort Smith, AR 72913-3649**  
**479-788-7000**

### **General Syllabus**

#### **PRFS 4203 Lean Systems Implementation**

Credit Hours: 3

Lecture Hours: 3

Laboratory Hours: 0

Prerequisite: Junior standing or consent of department head

Effective: 2021-2022

#### **I. Course Information**

##### **A. Catalog Description**

Provides methods used to plan and implement lean systems in complex business operations including a stepped approach to implementing improvements. The value of lean tools and sequencing efforts for the best chance of a successful transition to a lean system are explored.

#### **II. Student Learning Outcomes**

##### **A. Subject Matter**

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

1. Select tools for a successful transition to lean systems.
2. Evaluate a series of processes to determine potential bottlenecks that reduce output.
3. Evaluate where failures could occur in a lean project based on a specific situation.
4. Create a Value Stream Map based on observations of an existing process.
5. Assemble a team for a kaizen event for a small process, implement the change, and evaluate the effectiveness of the team.
6. Select appropriate measurable Key Performance Indicators (KPI's) for an organization with specific problems.
7. Design a simple block layout that improves continuous flow work.
8. Evaluate the use of a SMED setup reduction activity versus measuring machine efficiency.

**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.

**Global & Cultural Perspectives**

Through group projects, the student will reflect upon cultural differences and their implications on work to be completed with other students from diverse backgrounds.

**III. Major Course Topics**

- A. Current Use of Lean Systems
- B. Lean Manufacturing, Lean Service, and Other Variations of Lean
- C. Using the Value Stream Map to Define Current State and Opportunities
- D. Continuous Flow, TAKT Time, and Theory of Constraints
- E. Overview of Tools: 5S through 8S Workplace Organization, Kanban, Poke-Yoke, and Setup Reduction (SMED)
- F. Leading Large-scale Lean Projects
- G. Preventing Lean Implementation Failures
- H. Running a Kaizen Team for Rapid Improvements
- I. Developing Lean Leaders in Your Operation
- J. Sustaining Lean Performance
- K. Total Productive Maintenance
- L. Establishing and Tracking KPIs (Key Performance Indicators)