University of Arkansas - Fort Smith
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General Syllabus

WFL 2743 Lean Six Sigma Black Belt

Credit Hours: 3 Lecture Hours: 3 Laboratory or other types of Hours: 0

Prerequisite(s): WFL2303 Lean Six Sigma Strategies **or** with Consent of Instructor
Prerequisite(s) or Corequisite(s): None
Corequisite(s): None

Effective Catalog: 2020-2021

I. Course Information

A. Catalog Description Provides the student with a thorough understanding of all aspects of the Lean Six Sigma Method, including a high-level of competence in the subject matters contained within the phases of Define, Measure, Analyze, Improve and Control. The student will implement, perform, interpret and apply Lean Six Sigma at an advanced level of proficiency.

II. Student Learning Outcomes

A. Subject Matter
Upon successful completion of this course, the student will be able to:

1. Articulate with precision the process of waste reduction and the return on investment of efficiency programs as defined by Lean Six Sigma.
2. Analyze and redesign workplace processes with emphasis on reduction and elimination of redundancies and other
3. Assess, apply and evaluate process improvement techniques within the DMAIC model.
4. Communicate the business necessity for change via written and verbal modes as a champion for organizational and operational change

B. University Learning Outcomes
This course enhances student abilities in the following areas:

Analytical Skills
Critical Thinking - Students will design and develop complex Lean Six Sigma projects using highly-specialized problem-solving and analytical quality tools.
Quantitative Reasoning - Students will compare and contrast data using a variety of statistical process control calculations.

Communication Skills (written and oral)
Students will enhance written and verbal communication skills through while engaged in highly technical "real world" projects which require the ability to convey dynamic principles to a variety of audiences.

Ethical Decision Making
Students will grow their ability to discern appropriate ethical approaches to complex workplace issues.

III. Major Course Topics
A. Lean Six Sigma History and Organizational Structure
B. Definition of a Lean Six Sigma Project
C. Measurement of Variable and Attribute Date – Benchmarking
D. Analyzing Root Causes and Hypothesis Testing
E. Improving – Brainstorming, DFM, Systems Dynamics
F. Control Processes – SPC, FMEA, TPM, Best Practices
G. Leadership and Team Development