Master Syllabus

OPT 1130 - Lean Operations

Division: Science, Mathematics and Engineering

Department: Operations Technology

Credit Hour Total: 3.0   **Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

Prerequisite(s): OPT 1101

Date Revised: October 2012

Course Description:

Lean operations principles including lead time reduction, containerization, module design, standardized work and Takt time, Kanban, 5S's and Office Lean. Two classroom, two lab hours per week.

General Education Outcomes:

- Critical Thinking/Problem Solving Competency
- Information Literacy Competency
- Oral Communication Competency

Course Outcomes:

Lean production systems
Give examples and explain the differences between traditional operations and Lean operations.

   Assessment Method: Locally developed exams
   Performance Criteria: 70% or bettter on examinations

   Assessment Method: Simulations
   Performance Criteria: 80% of students score 80% or higher on evaluation rubric

Lean workcell
Working on sub-teams, create a fully functional workcell that will produce a product on demand with the least labor, equipment and inventory.

   Assessment Method: Behavioral observations
   Performance Criteria: Instructor observations as to functioning of team according to rubric. A score of "4" or higher on the rubric in this category achieved by 80% of the students.

   Assessment Method: Simulations
   Performance Criteria: 80% of students score 80% or higher on evaluation rubric

   Assessment Method: Written surveys and/or questionnaires
   Performance Criteria: Student surveys to evaluate their teammates. 80% of the students received an "8" or better on the survey

Systems integration
Working on teams, integrate sytems such as labor, equipment, information, calculations into an outcome that will produce a specified product and demand in the most efficient manner.

   Assessment Method: Locally developed exams
   Performance Criteria: 70% of students score 80% or better on examination questions dealing with this topic

   Assessment Method: Simulations
   Performance Criteria: 80% of students score "4" or higher on evaluation rubric on this topic

   Assessment Method: Written surveys and/or questionnaires
   Performance Criteria: Student surveys that students use to rate their learning indicate that 80% or better feel they are competent in this area.

Outline:

Value Stream Mapping/Flow Charting
Leadtime Reduction/Waste Elimination
Standardized Work and Takt Time
Quick Changeover
Kanban (pull systems)
5 S's (Workplace Organization and Visual Control)
Customer Service
Lean in Non-manufacturing Areas such as Offices, Shipping, etc.
Preventive Maintenance