Salt Lake Community College

Advanced Manufacturing Principles I

AMFG 1210 – Spring Semester 2020

Department Name: Division of Workforce Training and Continuing Education

Email: TBD

Class Date: TBD

Class Time: TBD

Class Location: TBD

Office Hours: By appointment

Textbook: None

Course Description

This is the first of two courses addressing basic manufacturing principles for advanced manufacturing, manufacturing organization, correct handling of calibrated measuring equipment, Lean Manufacturing Principles, Six Sigma, and Root Failure Analysis.

Course Learning Outcomes
1. Describe the importance of quality inspection and metrology
2. List and describe the basic organization and respective functions of the functional work groups of a typical manufacturer
3. Describe the significance of and how to correctly handle calibrated measuring equipment and the importance of a calibration schedule
4. List and describe the eight types of waste associated with Lean Manufacturing Principles
5. Explain value added work
6. Discuss the fundamentals of Six Sigma
7. Define a process
8. List and describe basic metrics
9. Discuss the cost of poor quality
10. Create and use cause & effect fishbone diagrams
11. Conduct 5 Whys Root Failure Analysis

COURSE MATERIALS and COMMUNICATIONS: This course will make extensive use of the SLCC Canvas online management system to provide course materials, communicate official

announcements, serve as a repository for course specific information, and channel communications between students and the instructor. Be sure to set your Canvas preferences so that notifications and updates reach you in a timely manner. If you are new to the Canvas system, there are various options available for orientations and training available.

TOPICS COVERED:

Unit #	Topic	Assignment due
1	Quality Inspection and Metrology Overview and Purpose	Homework Unit 1
2	Manufacturing Organizations and Functional Work Groups	Homework Unit 2
3	Calibrated Measuring Equipment and Calibration Schedules	Homework Unit 3
4	Lean Manufacturing Waste	Homework Unit 4
5	Lean Manufacturing Value Added Work	Homework Unit 5
6	Six Sigma Overview	Homework Unit 6 Midterm
7	Defining a Process	Homework Unit 7
8	Basic Metrics	Homework Unit 8
9	Effects of Poor Quality	Homework Unit 9
10	Cause & Effect with Fishbone Diagrams	Homework Unit 10
11	Root Failure Analysis	Homework Unit 11 Final Exam

Grading*

A	100 %	to 94.0%	C	< 77.0 %	to 74.0%
A-	< 94.0 %	to 90.0%	C-	< 74.0 %	to 70.0%
B+	< 90.0 %	to 87.0%	D+	< 70.0 %	to 67.0%
B	< 87.0 %	to 84.0%	D	< 67.0 %	to 64.0%
B-	< 84.0 %	to 80.0%	D-	< 64.0 %	to 61.0%
C+	< 80.0 %	to 77.0%	F	< 61.0 %	to 0.0%

Subject to change

Assessment	Description	Percentages
All Homework	Average of all homework assignments	40%
Midterm	Units 1-6	30%
Final Exam	Comprehensive exam that covers all material in the course	30%