

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: AMFG 202

Credit hours: 3-2-3

Course Title: Introduction to Lean Manufacturing and Six Sigma

Course Prerequisites: MATH 102 and AMFG 107 and AMFG 108

Textbook(s): Summers, Donna C. S. Lean Six Sigma, 1st Edition, Pearson. ISBN: 978-0135125106

Course Description: The course is designed for the manufacturing technologist. Topics include lean manufacturing, manufacturing economics, lean six sigma, production control, supply chain management, and quality systems.

Learning Outcomes:

At the end of the course, the student will:

- A. apply lean manufacturing techniques in typical manufacturing environments;
- B. apply cost tracking and economic principles to determine the economic viability of manufacturing systems;
- C. demonstrate and understand lean six sigma tools and principles as applied to manufacturing systems;
- D. apply production control techniques, one piece flow, production capacity, and line balancing as applied to manufacturing systems; and
- E. apply quality techniques including key feature identification, measurement methods, quality system components, and sampling methods as applied to manufacturing systems.

To achieve the learning outcomes, the student will or will be able to:

(The letter designations at the end of each statement refer to the learning outcome(s).)

- 1. define lean manufacturing techniques and be familiar with terminology; (A)
- 2. apply lean manufacturing techniques to a new or existing manufacturing process to achieve improvement goals; (A)
- 3. use and augment cost tracking tools to properly assign cost in a manufacturing system; (B)
- 4. use cost tracking tools and product pricing to document the return on investment of manufacturing systems; (B)
- 5. identify and use six sigma tools to improve an existing manufacturing process; (C)
- 6. use production control techniques to balance production lines, implement one piece flow, and optimize manufacturing processes; (D)
- 7. identify the key components of a quality system and how they function in a manufacturing process; (E) and
- 8. specify inspection methods and sampling plans for materials used in a manufacturing process. (E)

Course Requirements: Complete all homework assignments, in-class equipment exercises, in class tests, and final exam.

Course Grading Scale:

90 – 100 = A
80 – 89 = B
70 – 79 = C
60 – 69 = D
0 – 59 = F

Attendance Policy: The college attendance policy is available at <http://www.bpcc.edu/catalog/current/academicpolicies.html>

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams and/or clinical fees.

Nondiscrimination Statement: Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

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