

COURSE SYLLABUS
E M 538

Course Name: Lean Tools for Systems Improvement

Course Number: E M 538

Semester Credits: 3

Instructor/Contact Information: David Paulus, Ph.D., P.E., CQE, CHFEP

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Office Hours: TBD

Meeting Time: Monday 6:15 – 8:30 pm Pacific **Prerequisites:** None

Textbook: Improving Production with Lean Thinking, Javier Santos, Richard A. Wysk, Jose M. Torres, ISBN: 978-0-471-75486-2

The Lean Six Sigma Pocket Toolbook: A Quick Reference Guide to 100 Tools for Improving Quality and Speed, Michael L. George, John Maxey, David Rowlands, Mark Price, ISBN-10: 0071441190 ISBN-13: 978-0071441193

Course Description and Objectives: This course covers methods of improving production with using lean manufacturing and six sigma principles. Theory of Constraints is used as a tool to select the project that the lean and six sigma principles are applied.

Learning Outcomes: Students will:

- Learn and apply continuous improvement tools
- Analyze material flow and facility layouts
- Design cellular layouts
- Calculate equipment efficiency using performance, quality, and availability
- Learn how to Poka-Yokes
- Conduct motion studies
- Learn about maintenance
- Reduce machine downtime using SMED
- Environmental Improvements and the 5S Methodology