ABOUT INTERPRO
Michigan Interdisciplinary and Professional Engineering (InterPro) develops and delivers programs and services that enable engineers, managers, and technical professionals to be more effective, productive, and competitive. InterPro extends and enhances the programs, capabilities, and relationships of the faculty and affiliates of the College of Engineering by offering graduate degree programs, distance learning, non-credit public short courses, professional certification programs, and conferences.

Professional development short courses and certification programs include:
- Six Sigma Certification
- Design for Six Sigma
- Lean Manufacturing Certification
- Lean Product Development Certification
- Lean Office Certification
- Lean Healthcare Certification
- Lean Supply Chain for Healthcare Certification
- Lean Supply Chain & Warehouse Management Certification
- Lean Pharmaceutical Certification
- Michigan Human Factors Engineering Short Course
- Design & Control of Hybrid Vehicles

Graduate degree programs currently offered include:
- Automotive Engineering [online]
- Design Science
- Energy Systems Engineering [online]
- Engineering Sustainable Systems
- Financial Engineering
- Global Automotive and Manufacturing Engineering [online]
- Integrated Microsystems [online]
- Manufacturing Engineering [online]
- Pharmaceutical Engineering
- Robotics and Autonomous Vehicles

Graduate Certificates of Advanced Studies in Engineering (CASE) are also available in some of the programs.

To learn more about InterPro programs, visit, InterPro.engin.umich.edu, send an email to MEonline@umich.edu or call (734) 647-7200.

LEAN AND SIX SIGMA CLEARLY ARE MOST POWERFUL WHEN INTEGRATED.

In this course you will learn how to apply the DMAIC (Define-Measure-Analyze-Improve-Control) problem-solving methodology with a Lean-Six Sigma mindset to achieve maximum benefits.

UNIVERSITY OF MICHIGAN COLLEGE OF ENGINEERING

LEAN-SIX SIGMA DMAIC GREEN BELT CERTIFICATION
Tap into the Power of Lean-Six Sigma for Optimal Process Improvement

2010 PROGRAM DATES
July 26–30
October 18–22
December 6–10
Ann Arbor, Michigan

CUSTOMIZED TRAINING BRINGS OUR PROGRAM DIRECTLY TO YOU
This program can be tailored for your organization and delivered at your site.

Register Online Today: InterPro.engin.umich.edu
LEARNING OBJECTIVES
The objective of the course is to improve your capability to effectively identify, frame, and solve problems for the continuous improvement of quality, cost, and delivery/time. At the completion of the course, participants will be able to:

- Understand the power of the DMAIC problem solving process
- Quantitatively assess the current state of a process
- Effectively map a process using SIPOC, Process Mapping, and Value Stream Mapping
- Apply basic graphical tools to identify mean and/or variation concerns
- Identify and eliminate non-value-added waste in business processes
- Apply quick improvement tools including 5S, Standardized Work, Visual Management, Source Inspection/Mistake Proofing
- Understand Little’s Law and its implications for improving process flow through improved work cell/process layout, one-piece flow, pull systems, process leveling
- Apply Cause-Effect Diagrams and FMEA to identify and resolve process failure modes
- Apply basic stratification analysis techniques and Pareto Drill Down Analysis to decompose process variation
- Install methods of control to sustain process improvement activities
- Manage a Rapid Process Improvement/Kaizen Event

WHO SHOULD ATTEND
This program will benefit a wide array of professionals in both manufacturing and transactional areas who are interested in learning how to effectively combine Lean and Six Sigma tools and techniques and applying them in the DMAIC problem solving approach.

CERTIFICATE REQUIREMENTS
Students pursuing the University of Michigan Lean-Six Sigma DMAIC Green Belt Certification must complete in-class exercises, score 80% or higher on a final online multiple choice test, and complete a Lean-Six Sigma course project for certification. Students may either choose a Lean-Six Sigma project from their own workplace (with instructor approval) or select a prepared case study project developed by University of Michigan faculty.

PROGRAM PREREQUISITES
A basic understanding of statistical analysis methods is recommended including:
- Basic Microsoft Excel Skills
- Basic Statistics

ALSO INCLUDED...
A BusinessWeek bestseller, The Lean Six Sigma Pocket Toolbook blends Lean and Six Sigma tools and concepts, providing expert advice on how to determine which tool within a “family” is best for different purposes. Packed with detailed examples and step-by-step instructions, it’s the ideal handy reference guide to help Green and Black Belts make the transition from the classroom to the field.

$2,950* COVERS THE ENTIRE FIVE-DAY PROGRAM
Fee includes tuition, instructional materials, QE tools statistical analysis software, continental breakfast, lunch and a coffee break each day. Fee is payable in advance. * Upon registration, you will receive email confirmation including directions to the program site and recommended lodging.

GROUP DISCOUNT
Registration of five or more individuals qualifies for a group discount. Call (734) 647-7200 or email MEonline@umich.edu to learn more.

CUSTOM PROGRAMS
This program can be customized and delivered in person at your site. Call (734) 647-7200 or email MEonline@umich.edu to learn more.

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PROGRAM TOPICS

DEFINE
- Linking Metrics to VOC and VOB
- Identifying Classic Forms of Waste
- Identifying Opportunities & Project Charters
- Process Maps (SIPOC, Swim Lane, Process Mapping Diagram)

MEASURE
- Value Stream Mapping
- Understanding Data and Measuring Current State (Processing Time and Yield)
- Exploring Data Patterns
- Basic Data Collection, Sampling, and Graphical Analysis Tools (Run Chart, Histogram, Box Plot)
- Descriptive Statistics
- Rolled Yield Throughput Analysis (% Value-Add versus Rolled Yield)

ANALYZE
- Qualitative Process Analysis & FMEA Analysis
- Cause and Effect Diagrams
- Stratification Analysis (Grouping Variables, Bar/Pie Charts Pareto Analysis & Drill Down, Multiple Box Plots, Scatter Plot)

IMPROVE
- Quick Improvement Tools
- 5S Process
- Standardized Work, Mistake Proofing, Visual Aids
- Process Flow Improvement
- Little’s Law, Batch Reduction/One Piece Flow
- Setup Reduction
- Simple Pull Systems
- Simplified Process/Cell Layout
- Volume/Mix Leveling and Takt Time

CONTROL
- Process Control Methods
- Standardized Work, Visual Controls, Source Inspection/Mistake Proofing, Preventative Maintenance
- Managing Kaizen
- Continuous Improvement Events

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* Program fee at the time of brochure printing. Check our current program fee schedule at InterPro.ingeniumumich.edu. Fee subject to change. Pricing not valid for onsite or custom programs.

THE LEAN SIX SIGMA POCKET TOOLBOOK
By Michael L. Caneva, Ph.D.

PROGRAM INSTRUCTOR
PAT HAMMETT, Ph.D. As the lead instructor for live and online Six Sigma programs, Dr. Hammett has provided education and training to over 9,000 participants across a variety of industries. He is the lead developer of several widely acclaimed programs for healthcare, manufacturing, business processes, and other environments, as well as Design for Six Sigma, leading to certification at the Green Belt and Black Belt levels. He also teaches several pivotal undergraduate and graduate courses as part of the U-M Industrial Engineering, Manufacturing, and Interdisciplinary and Professional Engineering programs.

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