# Engineering Technology

## Applied Lean Leadership Graduate Certificate

The Applied Lean Leadership Certificate Program is intended for students who possess a bachelor's degree, are currently working in a production or service industry, and are specifically interested in learning about Lean principles and practices. Following the Society of Manufacturing Engineers' "Lean Certification Body of Knowledge," a student completing the certificate program will be expected to be able to pass the Lean Certification Exam at the Bronze level.

The certificate program provides students with:

- Competitive knowledge and skills for jobs in which Lean is practiced
- A cost-effective way to upgrade technical skills in Lean techniques
- Access to U of M library resources including periodicals on current Lean practices
- Instruction by practitioners in the art of Lean providing both breadth and depth
- Remote access to course materials suited to busy schedules of practicing professionals any time from anywhere

Up to 9 semester hours of the credits earned in the completion of the certificate may be applied to the requirements for the Master of Science in Engineering Technology if the student chooses to pursue that course of study.

LEAN certification
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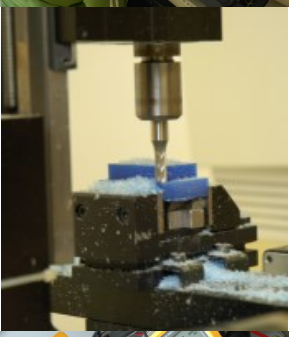
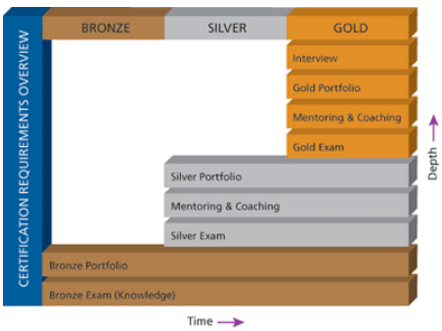
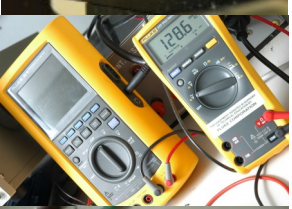


Lean Certification is a credential designed by industry for industry. It is a standard against which professional lean competencies are measured. Its core driver is the desire to assess a lean practitioner's knowledge, skills and abilities. The certification is targeted to companies on lean journeys, and to lean champions, practitioners and consultants charged with facilitating those lean transformations.

-www.sme.org

True Lean strength comes over time and is achieved through depth of experience. The Lean Certification program comprises three levels to represent the growing achievement by Lean practitioners. Starting with the foundational nature of the Bronze level, candidates build their way to higher levels as they learn and gain additional experiences. Higher levels build upon the development acquired during previous levels.



THE UNIVERSITY OF MEMPHIS
Herff College of Engineering

## CURRICULUM:

The curriculum consists of two required core courses for a total of 6 semester credit hours, plus two elective courses for an additional 6 semester credit hours.

## REQUIRED CORE COURSES:

**TECH 7105, Project Planning and Scheduling** (3 hours): Contemporary methods used in project planning and scheduling; emphasis on critical path method (CPM) with computer application; solution of actual problems stressed.

**TECH 7401*, Lean Fundamentals** (3 hours): Basic concepts and terminology of Lean, including review of published seminal works and case studies. Concepts covered include: kanban, visual factory & 5S, kaizen, standard work, takt time, flow, poke-yoke, PDCA, SMED and other tools & techniques of Lean. PREREQUISITE: TECH 4/6460 or equivalent, or permission of instructor.

## ELECTIVE COURSES:

**TECH 7402*, Advanced Quality Control. (3).** Methods for improved process and product design; cost of quality, measurement systems analysis, process capability, design of experiments and analysis, continuous improvement and review of quality standards. PREREQUISITE: TECH 4/6462 or equivalent, or permission of instructor.

**TECH 7404*, World-Class Manufacturing Concepts. (3).** World-class manufacturing and Lean concepts including Value Stream Mapping, Training Within Industry (TWI), Standard Work, 5S tools, Ergonomics, Human factors and Cellular Manufacturing. COREQUISITE: TECH 7401

**TECH 7406*, Materials Handling and Automation. (3).** Analysis, design, and evaluation of traditional and contemporary approaches to materials handling; analytical and computer procedures for designing handling systems. PREREQUISITE: Permission of instructor.

**TECH 7408, Production Processes. (3).** A coordinated study of manufacturing processes and equipment, operation sequence planning, economic aspects of equipment selection, tooling and processing a product from product design to final assembly for quantity production

**TECH 7414*, Manufacturing Strategy and Systems Design. (3).** Manufacturing strategy and systems design, including concepts of value stream mapping, theory of constraints, lean and six sigma (TLS) combined use, implementing and sustaining change and overcoming resistance, executive alignment and strategy. COREREQUISITE: TECH 7401

*Course prerequisites will be waived for students who have demonstrated relevant work experience.

Students may enroll in two electives from the Fogelman College of Business and Economics. Selection of the two business electives must be approved by the student's academic advisor and the Associate Dean of the Fogelman College.

For More Information, Contact:

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