

# INDUSTRIAL MANUFACTURING TECH (623)

## **623-002. Value Stream Mapping. (1 Credit)**

This course introduces principles and techniques of value stream mapping to reduce inefficiencies and waste.

Prerequisites: 623-001 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=002>)

## **623-130. Lean for Office. (3 Credits)**

This course prepares the learner with knowledge and skills to: automate wasteful processes to increase productivity, support quality in work and increase customer/stakeholder satisfaction.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=130>)

## **623-131. Transactional Lean. (3 Credits)**

Gain a practical understanding of how lean continuous improvement techniques can reduce/remove waste in transactional processes to increase productivity, support work quality and increase customer/stakeholder satisfaction. Learn to identify defects in transactional processes, including purchasing, quoting, scheduling, engineering and accounting, and explore lean enterprise concepts that apply to non-manufacturing operations.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=131>)

## **623-161. Lean Enterprise/Intro. (3 Credits)**

Learn the principles of lean through various in-class, team and individual activities. Develop a deep understanding of the value stream mapping process. Explore lean development tools at a high level, laying a foundation for more detailed study in subsequent courses.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=161>)

## **623-162. Prin for Lean Enterprise. (3 Credits)**

Explore concepts and tools for successfully implementing lean, including 5S for workplace organization and cellular manufacturing, focusing on the concept of one-piece flow and pull production to foster strategic material flow. Explore leadership-related issues that lean enterprise facilitators face in the workplace. Gain insight into how to apply these tools and concepts in manufacturing- and transactional-related fields, as well as in a continuous improvement environment. Work collaboratively to present theory, current articles and case studies, and develop a project that analyzes lean practices through a factory/organization tour. Demonstrate knowledge of 5S, cellular manufacturing and pull production to address and improve process-related inefficiencies.

Prerequisites: (623-161 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=162>)

## **623-163. J-I-T Lean Enterprise. (3 Credits)**

JIT Lean Enterprise explores several of the concepts/tools that are instrumental to the successful implementation of Lean. These concepts/tools include: Single Minute Exchange of Dies (SMED) to foster quick changeover, the concept of Kanban to facilitate a pull environment, Mistake-Proofing (Poka-Yoke) and Standard Work. In addition, students will explore change management issues that are faced by lean enterprise facilitators in the work environment. Students will gain insight into how these tools and concepts can be applied in both manufacturing and transactional related fields. Students will learn firsthand how lean enterprise concepts can be applied in a continuous improvement environment. The class will incorporate theory, application and group activities where students will work collaboratively to present theory, current articles and case studies along with a project that analyzes lean practices through a factory/organization tour. The student will be expected to demonstrate knowledge of SMED, Kanban, Poka-Yoke and Standard Work to improve process related inefficiencies.

Prerequisites: 623-161 (may be taken concurrently) with a minimum grade of C and 623-162 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=163>)

## **623-164. Lean Leadership Applications. (3 Credits)**

Apply the principles of lean through a comprehensive lean project. Demonstrate your ability to apply the value stream mapping process. Determine which lean improvement tools are appropriate for your chosen project, and demonstrate how to apply the selected tools effectively. Identify lean leadership strategies to successfully complete your project. Prerequisites: 623-163 (may be taken concurrently) with a minimum grade of C

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=164>)

## **623-170. Intro to Continuous Improvement. (3 Credits)**

This course is an application-based introduction to leadership in facilitating and championing a quality environment within an organization. Theories and approaches to improvement of systems and processes are examined to identify opportunities for improved efficiency. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=170>)

## **623-171. Introduction to ISO. (3 Credits)**

Explore interpretations of the ISO 9001:2015 standard's clauses in detail, providing a base for understanding the quality management principles and auditing requirements of the standard. Learn how to audit internal process documentation effectively, using appropriate communication techniques. Learn how to document audit findings/nonconformities correctly. Apply the concepts you learn through a practice audit.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=171>)

## **623-173. GD&T/Solidworks. (3 Credits)**

Learn the symbols, modifiers, rules, and concepts of Geometric Dimensioning and Tolerancing. Based on material conditions, the student determines feature tolerance zones for location, form, orientation, runout and profile tolerances as specified on drawings. The student utilizes part function in the development of datums and feature tolerances while creating dimension drawings per ASME Y14.5 – 2009 using SolidWorks. Prerequisites: (457-150 (may be taken concurrently) with a minimum grade of C or 439-181 (may be taken concurrently) with a minimum grade of C)

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=173>)

**623-175. Computer Assisted Prog Process. (3 Credits)**

Learn about how to utilize computer-assisted programming software that drives various manufacturing equipment to produce a given product. In this course, the student will use Mastercam for machine tools and SigmaNEST for automated laser/plasma cutting processes. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=175>)

**623-180. Manufacturing Eng Capstone. (4 Credits)**

This course takes the student through the product manufacturing process. Starting with a product or part to produce, the student applies knowledge of material properties in the development of manufacturing process plans. GD&T theory is applied in the development of efficient fixed gauging and inspection techniques. Lean concepts are applied and students prepare financial justifications for improvement projects. Prerequisites: (623-173 with a minimum grade of C or 606-114 with a minimum grade of C) and 623-163 (may be taken concurrently) with a minimum grade of C and 606-162 (may be taken concurrently) with a minimum grade of C See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=180>)

**623-403. CCMS Think Critically. (0.4 Credits)**

This course provides skills in problem solving. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=403>)

**623-403A. CCMS Think Critically Overview. (0.2 Credits)**

This course will provide an overview of problem solving. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=403A>)

**623-405. Workplace Organization - 5S. (0.6 Credits)**

Learn the 5S method of workplace organization to reduce waste and optimize productivity through maintaining an orderly workplace. Use the 5S steps (sort, set in order, shine, standardize and sustain) to develop and maintain an organized work environment. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=405>)

**623-414. Demonstrate Integrity. (0.4 Credits)**

This course discusses the importance of valuing diversity in perspectives. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=414>)

**623-416. Demonstrate Positive Attitude. (0.4 Credits)**

This course discusses the importance of valuing work and the impacts you have to an organization. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=416>)

**623-417. Adapt to Change. (0.4 Credits)**

This course will provide skills necessary to adapt to changes in the work force. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=417>)

**623-421. OSHA Principles. (1 Credit)**

This course provides competency in the OSHA standards. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=421>)

**623-422B. Problem Solving Strategies. (0.4 Credits)**

This course provides the skills to assess work problems and apply resolutions. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=422B>)

**623-430A. Lean Overview. (1.2 Credits)**

Participants in this course will be able to understand and apply basic problem solving tools to foster process related improvements in their organization. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=430A>)

**623-439. Basic Problem Solving - Lean. (0.8 Credits)**

Students will gain an understanding of how an organization can use new manufacturing practices to improve customer-perceived value. These practices include total quality management, employee empowerment, appropriate technology and just-in-time practices. Strategies and tools for implementation will be presented. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=439>)

**623-444. Process Improvement. (0.8 Credits)**

This course is designed to help build "infrastructure" to keep process improvements active, increasing, and effective. Small teams of mostly front-line employees are formed to manage activities like vibrant suggestion systems, continuous internal training, assistance in data collection and analysis, communication of successful improvements and appropriate recognition. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=444>)

**623-445. Fund of Prod & Invent Control. (4 Credits)**

Participants gain practical essential skills that help them become more effective and productive in their jobs. This course is for people that aspire APICS certification. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=445>)

**623-445A. APICS Core Fundamentals. (1.6 Credits)**

This workshop covers Inventory/Stores Control, Purchasing, Production and Inventory Control, and Material Requirements Planning. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=445A>)

**623-445B. APICS Extended Fund-Part 1. (1.2 Credits)**

This workshop covers Bill of Material Structuring, Overview and Forecasting, and Lean Manufacturing in the subject of Production and Inventory Control. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=445B>)

**623-445C. APICS Extended Fund-Part 2. (1.2 Credits)**

This workshop covers Master Scheduling, Capacity Planning, and Managing the Total System in the subject of Production and Inventory Control. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=445C>)

**623-445D. Sourcing Best Practices. (0.4 Credits)**

Participants in this course will learn to identify the best approaches used to select and qualify suppliers, how to prepare for a contract negotiation with a supplier by studying the steps in the process, determine the advantages and challenges with implementing a Supplier Relations Management (SRM) strategy, and identify the best practices used to measure supplier performance.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=445D>)

**623-446. APICS -Basics of Supply Chain. (3.6 Credits)**

Learn the basic concepts in managing the complete flow of materials in a supply chain from suppliers to customers.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=446>)

**623-446F. APICS CPIM Part 1. (2.4 Credits)**

This course covers the basics of supply chain management, demand management, and supply.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=446F>)

**623-447B. Process Mapping for Business. (1.1 Credits)****623-453. Systematic Problem Solving. (1.1 Credits)**

Learn how to approach solving problems utilizing tools designed for effectiveness.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=453>)

**623-453B. Strtgc Thnknng Prob Slvng Mthd. (0.4 Credits)**

Break out of your business-as-usual methods and enhance your strategic approach to problem-solving and decision-making using these tools.

You will learn to look at problems with an open mind, flex beyond your typical comfort zone, and develop an aptitude for exploring beyond what is immediately in front of you.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=453B>)

**623-455. Building a Lean Culture. (0.8 Credits)**

Sustaining the productivity gains that can be achieved with lean manufacturing methods requires cultural changes involving both leaders and workers. A lean culture works to harness the complete brainpower of the workforce to build a continuous improvement process. This workshop provides information about specific methods to develop leadership and employee involvement, along with techniques you can use to manage changes. In addition to the presentation, you will have an opportunity to try out these methods in hands-on exercises.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=455>)

**623-455A. Lean Culture. (0.4 Credits)**

This course provides depth in the understanding of the characteristics of lean within an organization.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=455A>)

**623-456. Lean Culture Facilitator. (2.4 Credits)**

This six-session learning opportunity is focused on coaching experienced Harley-Davidson facilitators on how to effectively facilitate the culture change process at Harley-Davidson. This coaching is intended to occur over a six-month period, and participants should be actively facilitating lean implementation/improvement projects. During these coaching sessions the group will discuss how to facilitate the culture change process and apply the concepts to the improvement projects. The facilitator group will also focus on understanding and developing leadership behaviors that support the change to a continuous improvement culture/learning organization that is essential to effectively implementing a lean enterprise strategy.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=456>)

**623-456A. Lean Facilitator. (2.4 Credits)**

This learning opportunity is focused on coaching experienced facilitators on how to effectively facilitate the culture change process. During these coaching sessions, groups will discuss how to facilitate the culture change process and apply the concepts to the improvement projects. The facilitator group will also focus on understanding and developing leadership behaviors that support the change to a continuous improvement culture/learning organization that is essential to effectively implementing a lean enterprise strategy.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=456A>)

**623-464. APICS Supply Chain Management. (4.2 Credits)**

This is a program with sequenced courses that educates professionals on supply chain terminology, concepts and strategies to support their effectiveness in business operations.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=464>)

**623-464A. APICS Basics of Supply Chain. (2.1 Credits)**

This course is an application and introduction to supply chain based on the APICS standards.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=464A>)

**623-465. ISO Internal Auditor Training. (3.2 Credits)**

Participants will learn a project management approach to implementing ISO 9000 or QS 9000.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=465>)

**623-468. APICS CPIM Part 2. (4.8 Credits)**

This is the second part of the new streamlined CPIM certification workshop. This workshop is designed for comprehensive professional development and exam preparation for CPIM certification and consists of four modules: Master Planning of Resources, Detailed Scheduling and Planning, Execution and Control of Operations, and Strategic Management of Resources.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=468>)

**623-474. Kepner Tregoe Problem Solving. (1.6 Credits)**

If a group is going to be successful, all members need to know how to function effectively. In this workshop, participants will learn how to increase their skills in identifying and analyzing problems and ability to function on a problem-solving work group. The workshop focuses on group communications, the basics of group dynamics and a systematic approach to solving problems.

See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=474>)

**623-474A. Process FMEA. (0.4 Credits)**

Participants will learn how to measure risk and determine the points of risk that cause mitigation actions. Action plans derived from FMEAs and methods to manage FMEA data for future purposes are also covered. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=474A>)

**623-476. 5S Workplace Organization. (3.6 Credits)**

This class teaches the 5S method of workplace organization to reduce waste and optimize productivity through maintaining an orderly workplace. Use the 5S steps of sort, set in order, shine, standardize, and sustain to develop and maintain an organized work environment. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=476>)

**623-476B. Workplace Org Max Prdctvty. (0.4 Credits)**

Discover workplace organization principles to quickly and dramatically transform your operation. Create a pleasant and efficient work environment for you and your colleagues. Practical, hands-on learning activities will demonstrate the ease at which effective organizing principles can be applied and show how it leads to improved visual management, workplace control and focus. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=476B>)

**623-489. Value-Stream Mapping II. (1.5 Credits)**

Learn how to create a map of the entire value stream of your organization product/processes. The course will have you map the current state of a product or process with the entire current data and non-value added and then map the future state. Your employees will learn the steps necessary to eliminate the waste in the system via the power of a value stream map in order to achieve the enhanced future state. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=489>)

**623-489A. Enterprise VSM. (1.2 Credits)**

This course provides the knowledge and the tools to assist the organization in improving processes using Value Stream Mapping. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=489A>)

**623-492. Prin of Lean Manufacturing. (0.8 Credits)**

Principles of Lean Manufacturing with live simulation is the first step to learning the principles of lean manufacturing. No previous experience is required. The course is a mix of classroom and live simulation. Participants begin by manufacturing simulated circuit boards in a traditional manufacturing setting. The results of the first simulation round will provide the setting for continuous improvement applying lean manufacturing principles. Participants will walk away understanding the eight wastes in manufacturing. A mixture of lecture and hands-on simulations teach lessons in standardized work, workplace organization, visual controls, set-up reduction, batch size reduction, point of use storage, quality at the source, workforce practices, and pull systems. Each designed to eliminate waste in the manufacturing process. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=492>)

**623-492A. Lean Manufacturing/Princ. (0.4 Credits)**

Principles of Lean Manufacturing is the discussion and analysis of systems and processes efficiency to meet and support organizational goals. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=492A>)

**623-492B. Intermediate Lean for Mfg. (0.4 Credits)**

Intermediate Lean for Manufacturing continues the discussion and analysis of systems and processes efficiency to meet and support organizational goals. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=492B>)

**623-492C. Inventory Best Practices. (0.4 Credits)**

Manufacturing companies often depend on inventory to operate or fill client orders. Inventory is a major company asset that helps a company with tasks such as planning and staying within budget. Keeping accurate inventory records is a major management tool that has multiple benefits. The focus of this workshop is to provide an overview of current best practices in inventory management and its impact on the organization's supply chain. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=492C>)

**623-498. Kaizen Event. (4.8 Credits)**

This 43-hour course is comprised of instruction and small-group exercises around pre-event planning, including event selection/scoping, team composition and initial strategy formulation, as well as the review of the host company's kaizen event management. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=498>)

**623-498A. Kata Training. (0.6 Credits)**

This course introduces the concepts of the Improvement Kata and Coaching Kata in an engaging hands-on format helping the participants learn how to apply them in their organizations to create the culture of continuous improvement and learning. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=498A>)

**623-499A. Assessing Your Supply Chain. (0.4 Credits)**

It is likely that you are familiar with the metrics associated with your company's financial performance, but how versed are you in another indicator of financial performance - your company's supply chain? Do you know how well your supply chain is performing in terms of inventory accuracy? On-time delivery? Many companies have overlooked the importance of supply chain performance measurements. This situation exists despite the fact that supply chain performance is the leading indicator of excellent financial performance. See sections of this course (<http://www.wctc.edu/academics/programs-courses/course-search/course-search-listing.php?code=623&num=499A>)