



Central  
North  
South  
SVI

## INT115 - Introduction to Lean Manufacturing

Document Type: District Master Course Outline

Proposal Type: New Course

Requester(s): Danette Randolph

College: South

Origination Approved: 11/15/2012 - 1:12 PM

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### BASIC INFORMATION

**Requester(s):** Danette Randolph

**College:** South Seattle Community College

**Division/Dept:** Apprenticeship-GT Campus

**Dean:** Holly Moore

### COURSE INFORMATION

**Proposed Course Number:**

Prefix: **INT**

Number: **115**

Request a new Prefix

This will be a common course

**Full Title:** Introduction to Lean Manufacturing

**Abbreviated Title:** Intro to Lean Man

**Catalog Course Description:**

Communication strategies and tools that will enable participants to grow and more fully participate in the implementation of the concepts of Lean. Designed to relieve the participants of the pressure to simultaneously assimilate the new concepts of Lean Manufacturing in the training environment.

**Course Length:** 11 Weeks

Request an Exception

**Course Prerequisite(s):**

Instructor Permission

**Topical Outline:**

- I.
  - A. Definition of Lean
  - B. Importance of Lean
  - C. Difference Between Value-Added and Non-Value-Added
  - D. Preparing to Work in a Lean Environment
  - E. Dos and Don'ts for Lean Terms
  - F. Traditional Manufacturing
  - G. Eight Wastes
  - H. Introduction to Key Terms
  - I. Visual Controls
  - J. 5S and Standardized Work

II. Lean 101

- A. Introduction to Lean Manufacturing with Basic Principles
- B. Round 1 Simulation
- C. Implementing Lean and Introduction Tool Use
- D. Round 2 Simulation
- E. Application of Lean Tools
- F. Introduction to New Advanced Lean Tools
- G. Round 3 Simulation
- H. Implementation Action Plan

III. Green 101

- A. Definition of "Green"
- B. Sustainability and Global Conditions
- C. Round 1 of Simulation
- D. The 4R's
- E. Supply Water / Wastewater Management
- F. Climate / Air Emissions Management
- G. Round 2 of Simulation
- H. Solid Waste Generation / Material Use
- I. Chemical Waste Generation / Green Chemistry
- J. Energy Management
- K. Round 3 of Simulation
- L. Environmental Business Management
- M. Implementation Action Plan

IV. Yellow Belt Six Sigma

- A. Definition of Six Sigma
- B. Traditional Problem Solving
- C. Lego Exercise
- D. Variation, Defects, Causes, and Errors
- E. Catapult Simulation Round 1
- F. Standard Deviation
- G. Statistical Inference
- H. Coin Toss Exercise
- I. Catapult Exercise Round 2
- J. Statistical Process Control
- K. Limits and Capabilities

COURSE CODING

**Funding Source:** 1.....State  
**Institutional Intent:** 21.....Vocational Preparatory

This Course is a requirement for the following program(s):  
(No Programs Selected)

My Course Proposal is a requirement for a program not on this list

**Will this course transfer to a 4-year university?**

**No**

**Is this course designed for Limited English Proficiency?**  
**Is this course designed for Academic Disadvantaged?**  
**Does this course have a Workplace Training component?**

**No**  
**No**  
**Yes**

**CIP Code:** 47.0303

Request Specific CIP Code

**EPC Code:** 768

Request Specific EPC Code

**Credits:**

**Will this course be offered as Variable Credit? No**

**List Course Contact Hours**

Lecture (11 Contact Hours : 1 Credit)	33
Lab (22 Contact Hours : 1 Credit)	0
Clinical Work (33 Contact Hours : 1 Credit)	0
Other (55 Contact Hours : 1 Credit)	0
Total Contact Hours	33
Total Credits	3

**COLLEGE SUPPLEMENTAL**

**Proposed Quarter of Implementation:** Winter 2013

Request Provisional Exception

**Class Capacity:** 20

**Modes of Delivery:** (Check all that apply)

Fully On Campus

Fully Online

Hybrid

Other Explanation:

**Class Schedule Description:**

Four industry recognized certifications in Lean and Green Manufacturing Combination of Lecture and computer simulation facilitated by industry professionals to provide understanding and exposure to the Lean 101 concept. Courses taught through, in classroom, virtual and interactive applications and simulations to enhance learning. Industry certification include:

Lean English Essentials (Lean 101)

Lean Training (Lean 101)

Lean Six Sigma (Yellow Belt)

Green Specialist (Green 101)

**Student Learning Outcomes:**

**Communication**

Read and listen actively to learn and communicate

Read Lean Manufacturing materials and communicate concepts

**Personal Responsibility**

Manage personal health and safety

Apply concepts to promote safety

**Program Outcomes:**

**SOUTH SEATTLE COMMUNITY COLLEGE**

**Industrial Manufacturing Advanced**

**PROGRAM OUTCOMES**

At the end of the program the graduates will:

- Describe and utilize manufacturing techniques, tools and safety practices.

(SLO 1, 2, 3, 4, 5, 7)

- Apply the concepts of diversified manufacturing, OSHA standards, Composites, Welding and LEAN concepts to promote quality and safe production and designs. (SLO 1,2,3,4,7)
- Employ the appropriate actions regarding workplace culture, safety and industry standards; (SLO 3, 6)
- Evaluate one's own capabilities and limitations, identify individual needs of continued growth is able to seek consultation from superiors. (SLO 3, 6)
- Communicate effectively and appropriately in the workplace. (SLO 1, 3, 4, 6)
- Practice within the standards established by the profession, and identify the parameters of accountability. (SLO 2, 4, 5, 6, 7)

**Course Outcomes/Objectives:**

Upon completion of the course, students will be able to:

1. Provide English language communication strategies and tools to enable participants to grow and more fully participate in the implementation of the concepts of Lean
2. Learn the language of Lean manufacturing in order to better assimilate the concepts
3. Classroom style learning with interactive simulations
4. Participants learn and develop the tools to redesign a fictitious company's business using green techniques in order to improve customer and employee satisfaction
5. Apply methods of improving overall
6. Provide participants a common language and understanding of Lean

7. Learn, understand and identify the 10 wastes of CLOSEDMITT

**Explain the student demand for the course and potential enrollment:**

This course is part of required curriculum fo a Professional Technical Short Term Training Certificate

**Explain why this course is being created:**

This course is part of required curriculum for a Professional Technical Short Term Training Certificate

**What challenges, if any, do you foresee in offering this course:**

None at this time.

**This is to certify that the above criteria have all been met and all statements are accurate to the best of my knowledge.**

Faculty involved in originating this program:

Danette Randolph  
Print Name

*Danette Randolph*  
Signature

11/14/2012  
Date

Dean:

Holly Moore  
Print Name

*Holly Moore*  
Signature

11/15/2012  
Date

**Results of SSCC Curriculum Coordinating Council Findings**

**Participating Faculty Response and Remarks**

- Recommended for approval
- Not recommended for approval
- This course did not go through Committee Review

Chairman, Curriculum Coordinating Council:

Print Name

Signature

Date

Vice President for Instruction:

Donna Miller-Parker  
Print Name

*Donna Miller-Parker*  
Signature

11/15/2012  
Date