

Post Graduate Program in LEAN SIX SIGMA

University Of Massachusetts Amherst,
Continuing and Professional Education

Delivered by **simplilearn**

Table of Contents

About the Post Graduate Program in Lean Six Sigma	3
Key Features of the Program	4
About University of Massachusetts Amherst	5
About Simplilearn	5
Program Eligibility Criteria and Application Process	6
Learning Path Visualization	8
Program Outcomes	9
Who Should Enroll in This Program	10
Courses	
— Step 1 - Lean Management	11
— Step 2 - Minitab®	12
— Step 3 - Certified Lean Six Sigma Green Belt (LSSGB)	13
— Step 4 - Certified Lean Six Sigma Black Belt (LSSBB)	14
— Step 5 - Lean Six Sigma Capstone	16
Elective Course	17
Certificate of Completion	18



About the Program

Accelerate your career growth with our comprehensive Post Graduate Program in Lean Six Sigma in partnership with the University of Massachusetts at Amherst. This program provides you with the skills and tools to lead operational excellence in transformational projects by improving quality and enhancing bottom-line results.

The Post Graduate Program in Lean Six Sigma offers a blend of online self-paced videos, live virtual classes, and hands-on projects. Learners also get access to mentorship sessions that provide a high-engagement learning experience and real-world applications to master essential Lean Six Sigma skills.

The meticulously-crafted program helps you transition from a traditional lean approach to a digital lean framework. The four key areas of digital lean addressed in the program are process efficiency, improvements in yield and utilization, operational excellence, and the key technologies for digital transformation. By acquiring skills in these key areas, you will be well-equipped for an exciting career as an operational excellence professional. After graduating from this Post Graduate Program, you will be able to implement quality projects and apply Lean and Six Sigma tools to address business problems.

Key Features of the Post Graduate Program in Project Management



University of Massachusetts
Amherst Post Graduate Program
Certificate of Completion



Capstone project in
3 domains



Official membership to the
UMass Amherst Alumni
Association



Curriculum aligned with PMI-
ACP®, IASSC-LSSGB, and LSSBB
certifications



Enrollment in Simplilearn's
JobAssist <<only for india>>



Interactive peer learning through
group projects and discussions



Earn 122 PDUs to maintain
your Continuing Certification
Requirements (CCR) for multiple
PMI® related certifications



Upon completion of the program,
you will receive a 3-credit elective
transfer for UMass Amherst Online
MBA (upon acceptance into the
online MBA program)

About University of Massachusetts Amherst

The University of Massachusetts Amherst ranks among the top 25 premier public universities by U.S. News Education Rankings. UMass Amherst is committed to academic excellence and innovative thinking to produce revolutionary ideas and impacts — on par with the best universities in the world.

This Post Graduate Program in Lean Six Sigma, in partnership with University of Massachusetts Amherst, will open new pathways for you in the field of operational excellence and project management. It relates to virtually every realm of business — from IT services to ecommerce to healthcare, and more.

Upon completing this program, you will receive a University of Massachusetts Amherst Certification of Completion.

About Simplilearn

Simplilearn is the world's #1 online bootcamp provider that enables learners through rigorous and highly specialized training. We focus on emerging technologies and processes that are transforming the digital world, at a fraction of the cost and time as traditional approaches. Over one million professionals and 2000 corporate training organizations have harnessed our award-winning programs to achieve their career and business goals.

Program Eligibility Criteria and Application Process

Those wishing to enroll in the Post Graduate Program in Lean Six Sigma will be required to apply for admission.

Eligibility Criteria

For admission to this Post Graduate Program in Lean Six Sigma, candidates must possess one of the first two criteria::

- ✓ A bachelor's degree in any discipline
- ✓ At least 5 years of experience
- ✓ Programming or non-programming background



Application Process

The application process consists of three simple steps.



Submit an Application

Complete the application and include a brief statement of purpose. The latter informs our admissions counselors why you're interested and qualified for the program.

Application Review

A panel of admissions counselors will review your application and statement of purpose to determine whether you qualify for acceptance.

Admission

An offer of admission will be made to qualified candidates. You can accept this offer by paying the program fee.



Talk to an Admissions Counselor

We have a team of dedicated admissions counselors who are here to help guide you in the application process and related matters.

They are available to:

- ✓ Address questions related to the application
- ✓ Assist with financial aid (if required)
- ✓ Help you better understand the program and answer your questions

Learning Path



Electives

- ✓ Digital Transformation
- ✓ Lean Six Sigma in Health Care
- ✓ Lean Six Sigma Application in IT
- ✓ Lean Six Sigma Industry Masterclass - KPMG

Program Outcomes



Combine the waste-fighting measures of lean practices and defect-reducing techniques of Six Sigma to improve process efficiency



Identify and eliminate the root causes of defects and waste to make business operations more efficient.



Implement quality projects and specific industry applications. Learn to use the statistical Minitab® tool to enable effective statistical analysis for projects.



Become a key stakeholder in leading and implementing Lean Six Sigma projects in your organization



Describe how to identify an improvement in the project in the Define phase



Explain how to measure process and product quality in the Measure phase



Apply lean concepts such as 5S, waste reduction, process mapping, value stream mapping, and mistake proofing



Apply basic and more advanced statistical analyses to determine the relationship between key inputs and process outputs



Process key statistical data operations using Minitab



Export data to various MS Office applications

Who Should Enroll in this Program?

This program caters to graduates in any discipline and working professionals from diverse backgrounds. Candidates need not have any prior experience in project management to enroll in this program.

The program is best suited for individuals seeking the following careers:

- ✓ Professionals (Quality Control Supervisor, IT Analyst, Project Manager, Six Sigma Professionals) looking to learn how to improve organizational efficiency can become a Lean Six Sigma expert
- ✓ Quality Supervisor, Quality Manager, Quality Engineer, Quality Director
- ✓ Mid to upper-level managers responsible for bottom-line growth can learn skills to implement cost reductions and improve organizational capabilities
- ✓ Product Engineer, Developer Manager, Analyst



Lean Management

In this Lean Management course, you will learn the concepts and principles of lean management and understand how to streamline processes to drive the best value for your business. You'll develop skills in data-driven techniques and methodologies to eliminate waste.

Key Learning Objectives

- ✓ Understand the core concepts of lean management to help you more efficiently increase value for customers
- ✓ Identify (and remove) inefficient activities and continuously improve your processes by systematically implementing small changes
- ✓ Learn how to implement lean tools, techniques, and metrics for your business
- ✓ Develop skills on data-driven approaches and methodologies to eliminate waste

Course Curriculum

- ✓ Lesson 01 - Introduction
- ✓ Lesson 02 - Types of Waste
- ✓ Lesson 03 - Tools
- ✓ Lesson 04 - Lean in Manufacturing
- ✓ Lesson 05 - Lean in Service
- ✓ Lesson 06 - Lean in Office
- ✓ Lesson 07 - Lean Metrics
- ✓ Lesson 08 - Other Methodologies that Complement Lean
- ✓ Lesson 09 - Mean Maturity Matrix

Minitab®

In this Minitab course, you will learn the practical applications of the latest version of the Minitab 17 statistical tool. This course covers nine case studies in healthcare, IT and IT Services, and manufacturing industries. You will diagnose a problem and create its solution using Minitab 17.

Key Learning Objectives

- ✓ Process key statistical data operations using Minitab
- ✓ Export data to various MS Office applications
- ✓ Understand and apply various statistical tools in multiple quality improvement projects
- ✓ Understand and remove common pitfalls in data analysis
- ✓ Master all statistical tools and topics needed for Green and Black Belt projects

Course Curriculum

- ✓ **Lesson 01** - Introduction to Minitab
- ✓ **Lesson 02** - Interoperability in Minitab
- ✓ **Lesson 03** - Lean Six Sigma Green Belt Case Study
- ✓ **Lesson 04** - Case Study on Lean SS Green Belt
- ✓ **Lesson 05** - Gage R and R Analysis and Attribute
- ✓ **Lesson 06** - Case Study on Lean SS Black Belt
- ✓ **Lesson 07** - Regression Analysis in Minitab
- ✓ **Lesson 08** - Hypothesis Test for Non-Normally Distributed Data
- ✓ **Lesson 09** - Analysis of Variance
- ✓ **Lesson 10** - Chi Square Test for Association
- ✓ **Lesson 11** - Design of Experiments
- ✓ **Lesson 12** - Common Pitfalls while Analyzing Data

Certified Lean Six Sigma Green Belt (LSSGB)

In this Lean Six Sigma Green Belt certification course, you will master the core principles of Lean Six Sigma, implement and lead quality projects and applications, use the Minitab tool for statistical analysis and integrate lean and DMAIC methodologies through multiple case studies and real-life examples. This course is aligned with the IASSC exam to provide skills that enable continuous improvement in your organization.

Key Learning Objectives

- ✓ Become a key stakeholder in leading and implementing Lean Six Sigma projects in your organization
- ✓ Describe how to identify an improvement project in the Define phase
- ✓ Explain how to measure process and product quality in the Measure phase
- ✓ Perform data analysis and hypothesis testing in the Analyze phase
- ✓ Identify possible improvement actions for the performance of variations in the Improve phase
- ✓ Define efficient operating levels for inputs and outputs in the Control phase
- ✓ Use Design for Six Sigma (DFSS) tools such as Quality Function Deployment (QFD), Failure Mode, and Effects
- ✓ Understand the concepts of Failure Modes and Effects Analysis (FMEA) and Risk Priority Number (RPN)

Course Curriculum

- ✓ Lesson 01 - Six Sigma and Organizational Goals
- ✓ Lesson 02 - Define Phase
- ✓ Lesson 03 - Measure Phase
- ✓ Lesson 04 - Analyze Phase
- ✓ Lesson 05 - Improve Phase
- ✓ Lesson 06 - Control Phase

Certified Lean Six Sigma Black Belt (LSSBB)

In this Lean Six Sigma Black Belt, you will learn the concepts and principles of lean management and how to streamline your processes to drive the best value for your business. You will gain a working understanding of managing team dynamics effectively and an understanding of how to remove barriers when working with multiple levels of leadership to achieve project success.

Key Learning Objectives

- ✓ Effectively manage team dynamics and understand how to work with multiple levels of leadership to remove barriers and achieve project success
- ✓ Close projects and hand over control to process owners
- ✓ Present projects to instructors, peers, and managers

Course Curriculum

Section 00 - Course Introduction

Section 01 - Define Phase

- ✓ Lesson 01 - The Basics of Six Sigma
- ✓ Lesson 02 - The Fundamentals of Six Sigma
- ✓ Lesson 03 - Selecting Lean Six Sigma Projects
- ✓ Lesson 04 - The Lean Enterprise

Section 02 - Measure Phase

- ✓ Lesson 01 - Process Definition
- ✓ Lesson 02 - Six Sigma Statistics
- ✓ Lesson 03 - Measurement System Analysis
- ✓ Lesson 04 - Process Capability

Session 03 - Analyze Phase

- ✓ Lesson 01 - Classes of Distribution
- ✓ Lesson 02 - Inferential Statistics
- ✓ Lesson 03 - Hypothesis Testing
- ✓ Lesson 04 - Hypothesis Testing with Normal Data
- ✓ Lesson 05 - Hypothesis Testing with Non-Normal Data

Session 04 - Improve Phase

- ✓ Lesson 01 - Simple Linear Regression
- ✓ Lesson 02 - Multiple Regression Analysis
- ✓ Lesson 03 - Designed Experiments
- ✓ Lesson 04 - Factorial Experiments

Section 05 - Control Phase

- ✓ Lesson 01 - Lean Controls
- ✓ Lesson 02 - Statistical Process Control (SPC)
- ✓ Lesson 03 - Six Sigma Control Plans

Section 06 - Control

- ✓ Lesson 01 - Pre-control Considerations
- ✓ Lesson 02 - Variables and Attributes Control Charts
- ✓ Lesson 03 - Measurement System Analysis Control Plan and Project Closure
- ✓ Lesson 04 - Introduction to Total Productive Maintenance

Lean Six Sigma Capstone

The Lean Six Sigma Capstone project lets you apply the skills you learned in this program. Through dedicated mentoring sessions, you'll learn how to solve a real-world, industry-aligned problem using Lean Six Sigma methodology. This project is the final step in the learning path, and it will demonstrate to employers your expertise in project management.

Elective Course



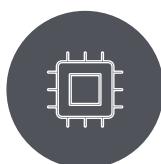
Digital Transformation

In this Digital Transformation course, You will leverage digital technologies, which will help in transforming the business strategies and objectives to build a solid action plan, foster customer-focused innovation, and drive a digital culture in your organization.



Lean Six Sigma in Health Care

The Lean Six Sigma in Healthcare course highlights its application in the healthcare sector. This course provides a practical understanding of using the methodology and tools to improve projects in a healthcare setting. To understand the life cycle of an operational excellence project, you will conduct a sample project through the entire process from the Define phase to the Control phase. You will demonstrate your understanding of key concepts by using the relevant tools and methodologies to achieve project objectives.



Lean Six Sigma Application in IT

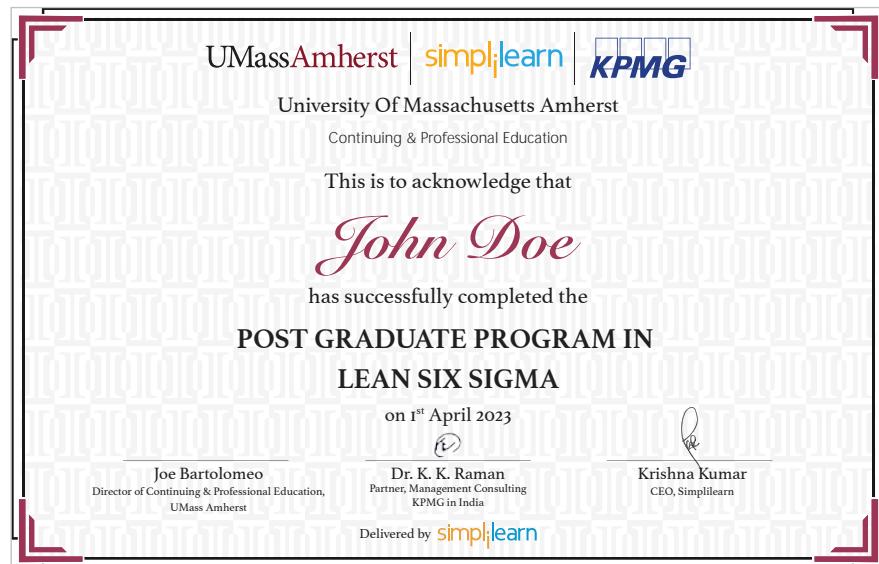
The Lean Six Sigma in Information Technology course highlights its application in Information Technology. This course will introduce powerful Lean Six Sigma concepts and tools to address challenges that IT organizations face in implementing process improvement. In this course, you'll learn the application of lean principles to remove waste and describe the uses of metrics and control charts to ensure the stability of IT processes.



Lean Six Sigma Industry Masterclass - KPMG

Attend online interactive masterclasses from KPMG in India and get insights about real-world lean and six sigma practices.

Certificate of Completion



Upon completion of this Post Graduate Program in Lean Six Sigma, in partnership with University of Massachusetts Amherst, you will receive the Post Graduate Program Certificate of Completion from UMass Amherst. You will also receive certificates from Simplilearn for all courses in the learning path. These certificates will testify to your skills as a quality management or operational excellence professional.



simplilearn

USA

Simplilearn Americas, Inc.
201 Spear Street, Suite 1100, San Francisco, CA 94105
United States
Phone No: +1-844-532-7688

INDIA

Simplilearn Solutions Pvt Ltd.
53/1 C, Manoj Arcade, 24th Main, Harkunte
2nd Sector, HSR Layout
Bangalore - 560102
Call us at: 1800-212-7688

www.simplilearn.com

Disclaimer: All programs are offered on a non-credit basis and are not transferable to a degree.