



VILLANOVA
UNIVERSITY

Villanova University
Professional Education
Certificate Programs Online
2008 - 2009

Six Sigma
Certificate Programs Online



VILLANOVA
UNIVERSITY

VILLANOVA UNIVERSITY

Villanova University, a coeducational Roman Catholic institution founded in 1842 by the priests and brothers of the Order of St. Augustine, welcomes students of all faiths. The university consists of five colleges: The College of Liberal Arts and Sciences, The School of Business, The College of Engineering, The College of Nursing and The School of Law. It is the oldest and largest Catholic university in the commonwealth of Pennsylvania. For more than a decade it has been ranked by *U.S. News & World Report* as the #1 University in the North (Master's Division). *BusinessWeek* has ranked the undergraduate business school #13 in the nation.

Villanova University offers online certificate programs in various disciplines: Project Management, Six Sigma and Lean, Contract Management, IS Security, Business Analysis, Software Testing, Human Resources, ROI Methodology, Leadership, and Finance and Accounting for the Non-Financial Manager.

Hurry! Monthly Classes Fill Quickly.

- 800-571-4938
- Intl. +1 813-612-4296
- VillanovaU.com

Develop the Skills to Improve Quality and Profitability – 100% Online!

Discover the Six Sigma techniques that have helped organizations of all types operate more efficiently, reduce waste and improve their bottom line. Six Sigma is an overall enterprise improvement methodology structured to reduce product or service failure rates to near perfection. Utilizing a disciplined, data-driven approach, Six Sigma practitioners use data to monitor, control, and improve operational performance by eliminating and preventing defects in products and associated processes, including management, service delivery, design, production and customer satisfaction.

With Villanova's **Master Certificates in Six Sigma** you can conveniently earn the skills and credentials to become a sought-after professional in any department or industry. Villanova has specially designed four Six Sigma programs – three that demonstrate how the methodology can be applied in *healthcare, financial services and information technology* settings, plus a general program with examples and case studies from a number of other industries. Each master certificate program features a panel of seasoned experts who guide you through a specialized Green Belt course as well as Lean Six Sigma and Black Belt courses.

Villanova's unique online programs reveal the unprecedented results of Six Sigma implementation by organizations of all sizes. General Electric, one of the most successful companies using Six Sigma, has estimated benefits on the order of \$10 billion during the first five years of implementation. In the financial services industry, Bank of America credits Six Sigma with \$2 billion in revenue gains and cost savings since 2001. And numerous healthcare facilities throughout the United States have documented millions of dollars in annual savings directly attributed to Six Sigma.

LEARN FROM THE WORLD LEADER IN SIX SIGMA EDUCATION ONLINE!

Villanova University is widely recognized as the expert in Six Sigma education, with thousands of online enrollments that include professionals from numerous Fortune 500 companies. Each Six Sigma course is taught by Villanova University's superior online faculty, which includes best-selling Six Sigma author and consultant George Eckes, financial services expert Adam Bowden, information technology veteran Don Ainsworth and healthcare executive Susan McGann.

“Nothing compares to the effectiveness of Six Sigma when it comes to improving a company's operational efficiency, raising its productivity and lowering its costs. Perhaps the biggest but most unheralded benefit... is its capacity to develop a cadre of great leaders!”

-Jack Welch
Chairman & CEO (Retired), General Electric



DISTINGUISH YOURSELF WITH GREEN BELT, LEAN SENSEI AND LEAN BLACK BELT CERTIFICATIONS ONLINE FROM VILLANOVA UNIVERSITY!

Now you can earn industry-recognized certifications through the worldwide leader in Six Sigma online education – Villanova University! You'll enjoy instant recognition, credibility and respect for your new credentials, which are the only Six Sigma certifications offered online. Plus you'll get immediate pass/fail results after the exam.

Earning your Green Belt, Lean Sensei and Lean Black Belt certifications validates your commitment to quality, increases your earning potential, and gives you a competitive advantage in the workplace. No other credential does a better job of ensuring employers that your contributions will significantly impact the bottom line. According to the Six Sigma Academy, professionals with Black Belt certification save companies approximately \$230,000 per project and can complete four to six projects per year. That's more than \$1 million in annual savings per Black Belt!

Certification from Villanova University will also help you:

- Earn prestige and recognition from colleagues
- Become part of a community of certified professionals
- Gain greater confidence
- Be entrusted with greater responsibility

Become a Six Sigma Expert – Earn a Master Certificate!

Enterprises rely on highly trained performance improvement leaders to help them align Six Sigma and Lean with an organization's goals to create positive change, and to apply Six Sigma and Lean across all aspects of the business, including human resources, financial, legal, customer relations, information technology, operations, engineering and the supply chain. Villanova University's online master certificates help you gain the critical Six Sigma skills needed to lead remarkable improvements in any industry.

Take three Six Sigma courses and earn a Master Certificate in Six Sigma, a Master Certificate in Six Sigma – Healthcare, a Master Certificate in Six Sigma – Financial Services, or a Master Certificate in Six Sigma – Information Technology. Each program features Lean Six Sigma and Black Belt courses, plus a specialized Green Belt course with industry-specific examples and case studies. Earning a master certificate demonstrates thorough Six Sigma knowledge and understanding, as well as a solid commitment to continuing education.

Expand Your Perspective With Materials From All Four Six Sigma Programs!

Regardless of the Six Sigma master certificate program you choose, you'll have unprecedented access to lectures from all the customized Six Sigma courses – both online and on CD-ROM. This gives you the opportunity to see other industry examples and hear expanded explanations of the Six Sigma body of knowledge. You'll also have access to copies of the industry-specific study supplements in the other programs. Perhaps most importantly, you will be able to interact with professionals in industries outside your own, a benefit that allows you to compare best practices and deepen your understanding of proven Six Sigma techniques.

EXPERIENCE AN UNMATCHED ONLINE CLASSROOM

Our online classroom is second to none! It's dynamic, interactive and multimedia driven. Instant messaging and shared virtual whiteboards allow you to interact with classmates and faculty in real time. And two-way voice over IP is a great personal touch for students who prefer to communicate via voice to ask questions or discuss weekly assignments.

Communicating with professors during virtual office hours and viewing leading industry experts via streaming video make learning faster than in the traditional classroom setting. You'll do everything online in your own time, so you can work full time and continue your education.

UNPARALLELED FEATURES

- Virtual classroom provides two-way voice over IP with instant messaging and shared whiteboard features
- Professor-led classes through online streaming video
- Chat rooms and message boards for rich, real-time interaction with professors and students alike
- Ability to study anytime, anywhere
- No required login times – 24/7 access
- Multimedia access – not a book-in-a-box, go-it-alone program

Hurry! Monthly Classes Fill Quickly.

- ➔ 800-571-4938
- ➔ Intl. +1 813-612-4296
- ➔ VillanovaU.com



MASTER SIX SIGMA AND TAKE CHARGE OF YOUR FUTURE!

Nothing helps you stand out in the business crowd like the unique ability to reduce money-draining waste and inefficiency. But to tackle it, you must first identify it. That's where the data-driven methodology of Villanova's online Six Sigma master certificate program can help.



GET CERTIFIED!

Your master certificate prepares you for certification exams – Green Belt, Lean Sensei and Lean Black Belt – offered by Villanova University. Choose your path based on the following chart.



Combining the valuable techniques of Six Sigma and Lean into one comprehensive program, the online Master Certificate in Six Sigma helps professionals like you produce extraordinary results for their organizations. Courses including *Six Sigma Green Belt*, *Lean Six Sigma* and *Lean Six Sigma Black Belt* prepare you for today's globally competitive challenges of improving processes that deliver results, while gaining valuable skills and credentials that can be applied immediately on the job.

Program Benefits

- Use proven Six Sigma problem-solving methods and statistical tools
- Discover processes for collecting and analyzing data
- Learn to lead and execute process-level improvement projects
- Lower costs to provide products and services
- Improve customer satisfaction
- Increase productivity from fewer resources
- Lead and coach quality improvement initiatives

Who Should Register?

Professionals at all levels will benefit by learning how to use the core concepts of Six Sigma to make better business decisions, and how to apply advanced tools and methodologies to solve critical business process problems.

“Not only did I learn a lot but I started a job last week courtesy of this program. I am the new production planner and quality trainer for Service Wire Co. My boss told me that the Villanova program is what really put me above the other candidates!”

*-Darrell Ashworth, Service Wire Co.,
Huntington, West Virginia*



CHOOSE THE SPECIALIZED SIX SIGMA MASTER CERTIFICATE THAT’S RIGHT FOR YOU!

Villanova University does more than simply teach you the principles of Six Sigma. Our experts show you how to apply powerful practices in your specific business environment. Whatever program you choose, you will quickly benefit from customized examples and case studies carefully designed to maximize your success.

MASTER CERTIFICATE IN SIX SIGMA – HEALTHCARE

Through specific healthcare examples and case studies, this master certificate program teaches you how the unique problems in the healthcare industry can be solved using Six Sigma techniques. This proven methodology eliminates non value-added steps and reduces defects and variation, resulting in more efficient processes, better patient care and a stronger bottom line. Learn how healthcare organizations of all sizes – from small, rural clinics to large metropolitan hospital systems – are using Six Sigma practices to improve every aspect of their business.

Additional Healthcare Benefits

- Decrease patient mortality rates
- Shorten the length of hospital stays
- Increase cost savings
- Improve compliance requirements
- Increase throughput and generate incremental revenue opportunities
- Reduce the number of inpatient transfers

Who Should Register?

From directors of nursing and floor supervisors to risk managers and CEOs, all healthcare leaders interested in reducing waste and inefficiencies will benefit from this master certificate program.

MASTER CERTIFICATE IN SIX SIGMA – FINANCIAL SERVICES

This master certificate program is ideal for professionals in financial institutions who want to enhance risk management, investment income and overall efficiencies using proven Six Sigma methodologies. You’ll learn how financial organizations like Bank of America use Six Sigma to improve their operations areas, which have traditionally been considered the best candidates for Six Sigma implementation.

Additional Financial Services Benefits

- Lower costs by reducing transaction errors
- Improve the customer experience
- Grow revenue through efficiency and capacity enhancement techniques
- Develop future leaders
- Change the culture to make decisions based on facts and data

Who Should Register?

Financial professionals at all levels will benefit by learning how to use the core concepts of Six Sigma to make better business decisions, and how to apply advanced tools and methodologies to solve critical business process problems.

MASTER CERTIFICATE IN SIX SIGMA – INFORMATION TECHNOLOGY

With information technology impacting all industries, this master certificate program is a great choice for technology professionals who want to maximize their corporate value by implementing Six Sigma strategies that measure attributes like network speed, network reliability and relevant business processes. Discover how Six Sigma has evolved from an improvement framework for the manufacturing sector to one that can be applied across all levels of an enterprise, including software and systems development.

Additional IT Benefits

- Improve software quality
- Lower cycle time
- Reduce defects in products and services
- Increase customer satisfaction
- Improve systems reliability and performance

Who Should Register?

This master certificate program equips software programmers, developers and other technology professionals with the skills to apply Six Sigma tools and methodologies to address key business process issues.



WHAT THE EXPERTS ARE SAYING

“Six Sigma’s structured approach provides more than a checklist. It shows you what’s coming next, lets you look at data from different views, and gives you a big picture of your practices for making decisions.”

– Lynn Penn, Director of Quality Systems and Process Management
Lockheed Martin

“By implementing Six Sigma practices, we showed that a quality improvement project can lead to many benefits, not only patients in decreased mortality, but also to physicians and nurses by making it easier for them to provide the best evidence-based, guideline-directed care possible, and to the hospital itself with decreased lengths of stay and decreased costs.”

– Karen Gamerdinger, RN, MSN
Mercy Medical Center
Des Moines, IA

“The goal is not only to give the company’s future business leaders Six Sigma expertise, but also to ensure the Six Sigma program develops better business leaders.”

– Patricia Collins, Senior Deployment Champion
Merrill Lynch’s Enterprise-wide Six Sigma Program

Hurry! Monthly Classes Fill Quickly.

- 800-571-4938
- Intl. +1 813-612-4296
- VillanovaU.com

GET THE SIX SIGMA SKILLS YOU NEED — ONLINE!



NOW WITH SPECIALIZATIONS

Six Sigma Green Belt Certificates

Six Sigma Green Belt

Six Sigma Green Belt – Healthcare

Six Sigma Green Belt – Financial Services

Six Sigma Green Belt – Information Technology

Featuring specialized content for professionals in key business settings, these four courses are designed for individuals with little or no prior experience with Six Sigma methodologies. They’re an ideal way to learn to understand, interpret and use the core concepts of Six Sigma to make better business decisions. Each course is taught by Villanova University’s superior online faculty, which includes seasoned experts in a variety of industries. In addition to the topics listed below, each course spotlights cases studies and examples from healthcare, financial services, information technology and other fields. Managers responsible for top line growth will gain skills to implement cost reductions and improved organizational capability and capacity. There are no prerequisites.

What You’ll Learn:

- The Origins and History of Six Sigma
- DMAIC Methodology Overview
- Data Collection Plans
- The Project Scope of a Team
- Determining Customer Requirements
- Process Mapping and SIPOC
- Calculating the Baseline Sigma
- Types of Data
- Root Cause Analysis
- Hypothesis Testing
- Measures of Central Tendency
- Measures of Dispersion
- Control Charts (X-bar & R, XmR)
- Attribute Charts
- Process Capability FMEA
- Design of Experiments
- Prioritization Matrix
- Affinity Diagram
- Activity Network Diagram
- Process Decision Program Chart
- Interrelationship Diagram
- Tree Diagram
- Matrix Diagram
- Failure Modes & Effects Analysis
- Determining Project Solutions
- House of Quality
- Team Dynamics Diagram



Lean Six Sigma Certificate

This eight-week course helps managers and professionals gain valuable skills that can be used immediately to analyze performance. Lean is a vital part of today's business environment. The dimension of Lean Six Sigma attacks inefficiencies – wastes caused by defects, non value-added flow of information or materials, data storage, stacks of inventory, overproduction, and extra processing. Lean Six Sigma techniques help professionals lead successfully in both service and manufacturing industries. There are no prerequisites.

What You'll Learn:

- The Project Charter
- Lean is Not Only for Manufacturing
- Value Add and Waste
- Waste Walks
- Spaghetti Diagrams
- Project Management
- Projects – Initiation, Planning, Execution, Controlling, Closing
- Visualizing and Improving the Process
- Value Stream Mapping
- Kaizen Events
- 5-S
- Lean Accounting
- Theory of Constraints
- Barriers to Implementation
- Lean Projects
- Lean Tools
- Planning and Deployment for Lean Implementation
- Quality Function Deployment
- SMED
- Cellular Flow
- Pull Systems
- POKA-YOKE
- Organization Assessment
- TRIZ
- Prominent Figures of Lean
- Hoshin Planning
- Total Productive Maintenance

Lean Six Sigma Black Belt Certificate

This 16-week course is designed for experienced Six Sigma practitioners with Green Belt training or equivalent work experience. Students will learn to lead quality projects, coaching and mentoring Green Belts on their Six Sigma projects and executing Six Sigma techniques and strategies at the Black Belt level.

What You'll Learn:

- Needs vs. Requirements
- Criteria for Collecting Data
- Data Collection Plan
- Determining Baseline Sigma
- Sub-Process Mapping
- Histograms
- Chi Square
- Barriers to Lean Implementation
- Reliability and Design for Six Sigma
- Taguchi Design
- QxA=E
- Control Charts
- Moving Average and S Chart
- Evaluating the Measurement Systems
- Change Agent
- Top 10 Questions Regarding Six Sigma
- Benchmarking
- Financial Measures
- Scales and Probability
- Normal Distribution
- Normal Probability Plot
- Total Productive Maintenance
- Lean Six Sigma in Supply Chain Management
- DFSS Plus DMADOV
- Porter's Five Forces
- Theory of Inventive Problem Solving
- Pugh Analysis
- Multi-Vari Study
- Implementation
- Risk Analysis
- Measurement Systems in the Enterprise
- Process Control for Non-Normal Data
- Balanced Scorecards
- Cp, Cpk, Ppk
- Process Characterization
- Critical Success Factors
- Strategy of Six Sigma
- Creating a Six Sigma Culture