Continuing Education
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BUS-58 – Six Sigma Green Belt (CSSGB) Certificate Program with Externship Professional

Professional Education Course Syllabus

Program includes National Certification & an Externship Opportunity

Course Contact Hours: 48

The Six Sigma Green Belt (CSSGB) Specialist

Six Sigma Specialists are tasked with supporting the project lead, most likely a Six Sigma Black Belt and provides a stepping stone to this advanced classification as well. Successful participants in this class will be poised to work on small, defined Six Sigma projects within an organization, requiring less oversight by the assigned manager (presumably a Six Sigma Black Belt). This ability to free up supervisory time reduces costs and increases productivity for entire projects, which presents significant value to both current and prospective employers. Whether in healthcare, finance, government, manufacturing or any other industry, Six Sigma Green Belt training is ideal for current professionals looking toward advancement in their current position as well as individuals looking to gain employment with any firm that utilizes these concepts and techniques.

The Six Sigma Green Belt (CSSGB) Program

The Six Sigma Specialist program helps professionals to strengthen organizations by employing the core concepts of Six Sigma geared toward enhanced problem-solving skills with an emphasis on the DMAIC (Define, Measure, Analyze, Improve, and Control) model. The Six Sigma Specialist program presents an overview of the key concepts for the Six Sigma Green Belt Certification exam. Students will explore processes and team management, operational metrics, and key tools and techniques to achieve process excellence. This program is designed to prepare students to sit for the Six Sigma Green Belt Certification exam offered by the American Association for Quality.

Education and National Certifications

- Students should have or be pursuing a high school diploma or GED.
- There are no state approval and/or state requirements associated with this program.
- There are several National Certification exams that are available to students who successfully complete this program:
  - **American Society for Quality (ASQ) Certified Six Sigma Green Belt (CSSGB) Exam**
    - The Six Sigma Green Belt certification requires 3 years of work experience in one or more areas of the Six Sigma Green Belt Body of Knowledge.
    - Work experience must be in a full time, paid role. Paid intern, co-op or any other course work cannot be applied
  - **Microsoft Office Specialist (MOS) Certification Exam**.

Program Objectives
At the conclusion of this program, students will be able to:

- Justify the value of Six Sigma metrics
- Analyze customer information within a potential Six Sigma project
- Apply the design for Six Sigma (DFSS) process
- Apply theories of team dynamics to improve Six Sigma process
- Apply the Define-Measure-Analyze-Improve-Control (DMAIC) process
- Generate process management documentation
- Analyze the effects of statistical process control (SPC) on performance Analyze process capability in the context of performance
- Apply design of experiments (DOE) to a potential project
- Use Microsoft Office

National Certification
Upon successful completion of this program, students would be eligible to sit for the American Society for Quality (ASQ) Certified Six Sigma Green Belt (CSSGB) and the Microsoft Office Specialist (MOS) exams. Although there are no state approval, state registration or other state requirements for this program, students who complete this program will be prepared and are eligible to sit for this national certification exam. Students who complete this program are encouraged to complete the externship option with their program. Students who complete this program can and do sit for the MOS national certification exams and are qualified, eligible and prepared to do so.

Externship / Hands on Training / Practicum
Although not a requirement, once students complete the program, they have the ability to participate in an externship and/or hands on practicum so as to practice the skills necessary to perform the job requirements of a professional in this field. Students will be assisted with completing a resume and/or other requirements necessary to work in this field. All students who complete this program are eligible to participate in an externship and will be placed with a participating organization near their location.

Six Sigma Specialist Program Detailed Student Objectives:

SIX SIGMA METRICS

- Describe the four key business drivers of Six Sigma
- Discuss the value of Six Sigma to a company
- Use Six Sigma metrics and scorecards to evaluate projects

SIX SIGMA CUSTOMERS

- Describe the goals of Six Sigma
- Describe methods to collect customer data
- Utilize customer data to provide customer feedback
- Apply quality function deployment (QFD) to a project

DESIGN FOR SIX SIGMA

- Describe how organizations design for Six Sigma (DFSS)
- Explain the differences between design and process failure mode and effects analysis (DFMEA and PFMEA)
- Describe failure mode and effects analysis (FMEA)
- Explain how quality function deployment (QFD) relates to Six Sigma (DFSS) process

SIX SIGMA QUALITY MASTERS

- Identify key individuals in the quality field
- Explain how the teachings of key individuals in the quality field affected the Six Sigma methodology

SIX SIGMA PROBLEM-SOLVING

- Explain the Define-Measure-Analyze-Improve-Control (DMAIC) problem-solving process
- Use Define-Measure-Analyze-Improve-Control (DMAIC) to solve problems in business

SIX SIGMA PROCESS MANAGEMENT

- Identify the relationships between process input and output variables
- Use a process map to define the scope of a project

SIX SIGMA CONTROL CHARTS

- Describe the goals and benefits of statistical process control (SPC)
- Describe rational subgrouping
- Complete a control chart

SIX SIGMA PROCESS CAPABILITY

- Describe the process of designing and conducting process capability studies
- Differentiate between process performance and specifications
- Compute process capability and process performance indices

SIX SIGMA LEAN TOOLS

- Describe Six Sigma lean tools
- Explain how lean tools relate to lean manufacturing

Fresno Pacific University Student Learning Outcomes (FPU-SLO)

FPU-SLO 1	**Student Learning Outcomes Oral Communication:** Students will *exhibit* clear, engaging, and confident oral communication – in both individual and group settings – and will critically *evaluate* content and delivery components.
FPU-SLO 2	**Written Communication:** Students will *demonstrate* proficient written communication by *articulating* a clear focus, *synthesizing* arguments, and utilizing standard formats in order to *inform* and *persuade* others.
FPU-SLO 3	**Content Knowledge:** Students will *demonstrate* comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
FPU-SLO 4	**Reflection**: Students will *reflect* on their personal and professional growth and *provide evidence* of how such reflection is utilized to manage personal and vocational improvement.
FPU-SLO 5	**Critical Thinking:** Students will *apply* critical thinking competencies by *generating* probing questions, *recognizing* underlying assumptions, *interpreting* and *evaluating* relevant information, and *applying* their understandings to new situations.

FPU-SLO 6	**Moral Reasoning:** Students will *identify* and *apply* moral reasoning and ethical decision-making skills, and *articulate* the norms and principles underlying a Christian world-view.
FPU-SLO 7	**Service**: Students will *demonstrate* service and reconciliation as a way of leadership.
FPU-SLO 8	**Cultural and Global Perspective:** Students will *identify* personal, cultural, and global perspectives and will employ these perspectives to *evaluate* complex systems.
FPU-SLO 9	**Quantitative Reasoning**: Students will accurately *compute* calculations and symbolic operations and *explain* their use in a field of study.
FPU-SLO 10	**Information Literacy:** Students will *identify* information needed in order to fully understand a topic or task, *explain* how that information is organized, *identify* the best sources of information for a given enquiry, *locate* and critically *evaluate* sources, and accurately and effectively *share* that information.

Continuing Education Student Learning Outcomes (CE-SLO)

CE-SLO 1	Demonstrate proficient written communication by articulating a clear focus, synthesizing arguments, and utilizing standard formats in order to inform and persuade others, and present information applicable to targeted use.
CE-SLO 2	Demonstrate comprehension of content-specific knowledge and the ability to apply it in theoretical, personal, professional, or societal contexts.
CE-SLO 3	Reflect on their personal and professional growth and provide evidence of how such reflection is utilized to manage personal and professional improvement.
CE-SLO 4	Apply critical thinking competencies by generating probing questions, recognizing underlying assumptions, interpreting and evaluating relevant information, and applying their understandings to the professional setting.
CE-SLO 5	Reflect on values that inspire high standards of professional and ethical behavior as they pursue excellence in applying new learning to their chosen field.
CE-SLO 6	Identify information needed in order to fully understand a topic or task, organize that information, identify the best sources of information for a given enquiry, locate and critically evaluate sources, and accurately and effectively share that information.