May19 Rev A

**Cal Poly**

**Lean Six Sigma Black Belt Training – Online**

Class Meetings: W 5:10pm-7:00pm and online at Zoom [https://calpoly.zoom.us/j/215381714](https://calpoly.zoom.us/j/215381714" \t "_blank)

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Bldg 03 Rm 405 Office Hours: 3m-5pm W and by appointment

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*Central Coast Lean:* ***[www.cob.calpoly.edu/centralcoastlean/](http://www.cob.calpoly.edu/centralcoastlean/" \t "_blank)***

**Teaching and Online Learning Approach**

We will use a “flipped classroom” approach that emphasizes questions and answers and real world guests in the classroom and access to knowledge content and theory online. We call the class the “Cal Poly Lean Six Sigma Forum” because it combines three categories of students: Green Belts (GBs), Transactional Green Belts (TGBs), and Black Belts (BBs). And just about anyone from the lean six sigma community who wants to join us online. Students can be in a CSU degree program or working professionals. This creates a rich mix of experience and lean learners.

The class meets online every Wednesday from 5:0pm-7:00pm using Zoom <http://calpoly.zoom.us/> . Students are encouraged to attend every session to ask questions and interact, but sessions are also recorded for later viewing. Guest speakers will be a regular feature of the Wednesday session and will be the most interactive.

Students will be required to complete a “Quiz” for each couple of sessions. The primary learning elements for the course are the online lectures and guest speakers, weekly online movies, the online MoreSteam training material (see below), and an individual Lean Six Sigma Mini Project.

**COURSE DESCRIPTION**

This course is designed to familiarize students with the Lean Six Sigma process improvement methodology and to provide them an opportunity to practice using Six Sigma Black Belt tools. It is also the first step in the Cal Poly Lean Six Sigma Black Belt Certification process. A Lean Six Sigma Black Belt is an individual who is skilled in applying basic and advanced process improvement and project management methods in order to complete projects that will result in significant, sustainable improvements within an organization.

Originally developed by Motorola to improve quality in their manufacturing processes, Six Sigma has been adopted by companies throughout the world to improve all types of processes. When applied in business environments, Six Sigma programs have been used to dramatically increase an organization’s ability to improve quality and customer satisfaction while reducing overall costs. Companies such as AlliedSignal and General Electric have used Six Sigma to significantly increase productivity, operating income and cash flow.

In this course, students will gain an understanding of the strategy and deployment of Six Sigma Black Belt methods. After completing this course, you should be able to DO the following:

1. Communicate using Lean Six Sigma concepts.
2. Think about an organization as a collection of processes, with inputs that determine the output.
3. Relate Lean Six Sigma concepts to the overall business mission and objectives.
4. Use the concept of a Sigma Level to evaluate the capability of a process or organization.
5. Understand and apply the five-step D-M-A-I-C model as a framework to organize process improvement activity.
6. Employ a wide range of process improvement techniques, including Design of Experiments, within the D-M-A-I-C model.
7. Recognize the organizational factors that are necessary groundwork for a successful Lean Six Sigma effort.
8. Employ your Lean Six Sigma skills to lead a successful process improvement project delivering meaningful results to the organization.

This course consists of the following elements:

1. Complete the 140 hour Lean Six Sigma Black Belt – EngineRoom version online training provided by Moresteam.com. Access is provided for 365 days with permission. A course overview is provided at <http://www.moresteam.com/lean-six-sigma/black-belt.cfm>
2. Complete the online quizzes from each session – **20% of grade.**
3. Meet weekly or as specified with the course instructor online and on-time completion of course homework. Attending a minimum of 10 of 15 live sessions is required – **10% of grade.**
4. Practice Test in preparation for the final exam **– 5% of grade.**
5. Complete the open book, open note 5-hour final exam with at least a 70%. **The score on this exam determines 40% of your final grade.** Students not hitting the 70% mark will be required to retake the exam or take an incomplete or F for the class. Note that 80% or better is required to proceed with certification (separate course).
6. Complete a “Lean Six Sigma Mini-Project” as described below with a minimum of 70%. **The grade on this project determines 25% of your class grade.**

**COURSE OUTLINE**



**COURSE MATERIALS**

**Required**

1. This course does not have a text. We will be using the same online training material used by over 45% of Fortune 500 Companies. MoreSteam is a premiere supplier of online lean six sigma training material <https://www.moresteam.com/elearning/tour/lean-six-sigma-retail-tour.cfm>? You need to purchase access for a year.

Every student needs to have his or her individual access to the online MoreSteam training material.  Access cannot be shared. Note that the first 13.1 hours of training (Sessions 1 & 2) are to be completed by the Sunday at the beginning of the 2nd week of classes (syllabus attached).  Also note that the quizzes at the end of each Session will be counted as part of your course grade.

Follow these steps:

1. Go to the Cal Poly/MoreSteam portal at: **[https://www.moresteam.com/university/calpoly.cfm](https://www.moresteam.com/university/calpoly.cfm" \t "_blank)**
2. Select Cal Poly **Lean Six Sigma Black Belt and Exam**.
3. Click on **ENROLL** for the Lean Six Sigma Black Belt.  The price ($3700) will be based on your Coupon Code **(provided by instructor)** at checkout.  Be sure to use your work email address as your username as applicable.  DO NOT go to the main site for MoreSteam. Your discount will not work.  *Note that if you are enrolled in a CSU degree program, or have already completed Green Belt training with MoreSteam, you are eligible for an additional discount.  Please contact Eric Olsen [eolsen@calpoly.edu](mailto:eolsen@calpoly.edu" \t "_blank).*
4. Login, or New Customers to MoreSteam **CREATE MY ACCOUNT**.
5. Pay as directed.

We will also be setting up a **Google Folder**and **will be contacting you directly** to provide access once you are in the class.

1. In line with its mission to "Build a Community of Lean Practice" Central Coast Lean has purchased a site license to Gemba Academy [**http://www.gembaacademy.com/enterprise/CCLean/**](http://www.gembaacademy.com/enterprise/CCLean/) . This license allows any Cal Poly student, faculty, or staff **free** access the site and its resources. The **username is: CCLean** and the **password is: CRY8muda** (case sensitive). The password will change every quarter. If you are still at Cal Poly in the future and want access to the site, just contact me eolsen@calpoly.edu. Please respect this as intellectual property and do not share this outside Cal Poly. If you do want to share this within Cal Poly, I would appreciate if you cc me or send folks to me for access. That way I can monitor the "community building."
2. To participate in this course online, you are required to have access to a good internet connection and a working computer with a good microphone and video cam. We will be required to demonstrate you compliance to this requirement by make a brief online “stand-up” presentation to the class.

**Recommended**

It is also recommended you are also required to get a free copy of Minitab from Cal Poly or your University’s software download channel. This will supplement the statistics software provided free with the MoreSteam training. Minitab also has a “lite” version that runs on a Mac.

**PERFORMANCE EVALUATION**

**Grade Breakdown**

|  |  |  |
| --- | --- | --- |
| Polylearn Movie/Lecture Quizzes A, B, C, D (missing 1 = agerage of 3) | | 10% |
| MoreSteam Quizzes | 10% | |
| Class participation\* | 10% | |
| Mini Project | 25% | |
| Practice Test | 5% | |
| Comprehensive 3 hr exam | 40% | |
| **Total** | **100%** | |

**\*Class participation:**

Quantitative measures – complete and on time (108pts - 10% total)

1. Electronic Index card – 3pts
2. Resume – 3pts
3. Mini-Project Ideas Assignment – 6pts
4. Draft project charter – 6pts
5. On time completion of online session MoreSteam quizzes – 33pts total (3 pts each)
6. “Stand-up” credit in class – 6pts
7. Tool Plan assignment – 6pts
8. Mini Project Elevator Speech 6 pts
9. MoreSteam Quickie Kaizen assignment – 6pts
10. Mini Project Survey – 3pts
11. CTQC Survey – 3 pts
12. Shingo Survey online – 3 pts
13. On-Time Practice Test – 3 pts
14. Zombie Hunter – 24 pts = 18 Team + 6 Instructor
15. Extra Participation Credit: Additional Poster version of Mini-Project – 12pts. (ps: If you get 90% or more on your mini-project, and 12 pts on your extra credit, and provide us with a 2x3 foot hard copy of your poster, in I will guarrentee that we will post it at the next Central Coast Lean Summit.)

***\* Note: If students do not achieve the 80% minimum on the exam required to proceed with certification, the exam may be retaken after a 30-day “cooling off” period. The original test score still determines the course grade.***

Because the value of Lean Six Sigma capability is highly valued in the job market, students can list “Completed all courses required for Six Sigma Blackbelt certification” on their resumes upon successful completion of this course.

In addition, students are encouraged to pursue Cal Poly Lean Six Sigma Black Belt certification. <https://www.cob.calpoly.edu/ccl/lean-six-sigma/>

**POLICIES AND PROCEDURES**

#### Personal Integrity Policy

Your most valuable asset is your personal integrity. Exercise and develop this important asset in this course. The penalty for cheating is an **F for the course**. Cheating occurs when:

1. A student looks at other students' work during a quiz or exam or obtains help of faculty or students outside their assigned group on assigned homework sets or exams.
2. A student copies large sections of another author’s material without referencing it (plagiarism).
3. Students share answers to online quizzes or individual homework assignments.

In contrast to cheating, I believe it is beneficial to work in pairs and groups to study, discuss, and understand the material. This is especially true in addressing “supplemental exercises” at the end of each section. Feel free to discuss the online content and supplemental exercises with your classmates or others to build your understanding of the material.

**You are responsible for anything that is said in class or any changes made to assignments**. Do not e-mail or call me asking, “What did I miss?” Find a buddy to share coverage responsibility. If your buddy is at a loss, please contact one of our two able Teaching Assistants before going to me. cc me if you like.

**You are responsible for managing the inputs into your grade.** The points are there. I do not give additional projects to increase one's grade.