

University of Southern California
ISE 327 – Six Sigma and Lean Operations
TTh 3:30-4:50 pm – KAP 140

Instructor:	Yalda Khashe
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Tuesdays 1-1:50 pm or by appointment	Office: GER 241 Email: khashe@usc.edu
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Office Hours:	Office: TBD
TBD	Email: malapate@usc.edu

Catalog Course Description:

Standardized methodology for problem solving, basic and advanced statistical tools for root cause identification and solution confirmation, key principles for quality management and organizational excellence.

Text:

An Introduction to Six Sigma and Process Improvement, by James Evans and William Lindsay, Published by Cengage, 2nd edition (2014), ISBN-13: 978-1-133-60458-7

The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer by Jeffrey K. Liker, Published by McGraw-Hill Education (2004), ISBN-13: 978-0071392310

Course Expectations and Policies:

Course Expectations: To ensure a cooperative learning environment, each student is expected to read the text before each class meeting time, and prepare to actively participate during class discussions, team-related activities, presentations and writings. Students are expected to engage in behaviors that enhance the learning environment. Our goal is to optimize the learning experience for all the students; therefore, disruptive behaviors such as not listening, texting or using electronic devices, etc. are prohibited and will not be tolerated.

Participation and Attendance Policy: It is expected that students will attend class regularly and participate in the class discussion throughout the semester. participation involves actively listening and volunteering answers to questions and moving the discussion along toward a shared understanding. Participation grade will be assigned at the end of the semester based on objective (attendance, contribution to class discussions, interaction with TA/Instructor inside and outside the classroom) and subjective (contributing meaningful questions/answers, illustrating comprehension of course material) assessment by the instructor.

Due Dates/Make up Work: Exams must be taken as scheduled. Assignments are due as scheduled. Make-ups will be allowed only if the student has contacted the

professor before the due date, detailing a serious problem. There is no late submission for in-class exercises.

Academic Integrity: USC seeks to maintain an optimal learning environment. General Principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *SCampus*, The Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://usc.edu/dept/publications/SCAMPUS/gov/> Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review should there be any suspicion of academic dishonesty. The Review process can be found at: <http://usc.edu/student-affairs/SJACS/> Information on intellectual property at USC is available at: <http://usc.edu/academe/acsen/issues/ipr/index.html>.

Classroom Access: Any Student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m. - 5:00 p.m., Monday through Friday. The phone number for DSP is (213)740-0776.

Electronic Device Policy: You are allowed to use laptop/tablets to access your textbook, retrieve course information, and take notes only and as long as it does not disrupt the class and students' participation. Please do not use devices for any purpose unrelated to the class or during class presentations as this may result in the confiscation of the device. Other electronic devices (e.g., cell phones, iPods, etc.) should be turned off/silenced and put away for the entire duration of the class.

Statement for Students with Disabilities: Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to your course instructor (or TA) as early in the semester as possible. DSP is located in STU 301 and is open from 8:30am to 5:00pm, Monday through Friday. Website and contact information for DSP http://sait.usc.edu/academicssupport/centerprograms/dsp/home_index.html (213)740-0776(Phone), (213)740-6948(TDD only), (213)740-8216(FAX), ability@usc.edu

Online communication policy: Our goal is to respond to emails and online communication as fast as possible. However, please allow at least 24 hours for us to respond. The TA and the instructor will be less available during the weekend and national and university holidays.

Grades:

The final course grade will be determined based on the following weights:

Exam 1	20 %
Exam 2	20 %
Final Exam.	25 %
Homework	15 %
Team Case Study Presentations	10 %
Participation/in-class exercises.....	10 %

According to USC policy: “No student is allowed to retake a final examination or do extra work in a course after the semester has ended for purposes of improving his/her grade.” https://arr.usc.edu/forms/ARR_Grade_%20Handbook.pdf

Exams:

Exams consist of true/false, multiple choice, short answers and essay questions. If you cannot take an exam on the scheduled date and time, you must provide documents from a responsible party (doctor, court, police, etc.) and you must arrange to take the exam before the following class meeting. The final exam date/time is set USC and cannot be rescheduled.

Assignment Submission:

Homework descriptions will be posted on blackboard and assignments are due at the beginning of the class. You are encouraged to submit your assignments online. Electronic submission must be in MS Office formats. Your presentations can be of any format you deem appropriate.

Case Studies:

The case studies are designed so that you exercise the topics discussed in the class in a team setting, and also practice working and collaborating with other teams. Another goal is to enhance your learning experience, by “flipping” the classroom for a small portion of the course. According to the Accreditation Board of Engineering and Technology (ABET), one of the most important qualities of a good engineer is the ability to read, research, reduce and present a topic to a specific audience. The teams are formed in the first-class session. Each team will work on one or two assigned case studies and prepare a presentation for the class. The case studies will be provided based on textbook material; However, each team needs to do their own research to complement the text and include their own examples and questions in the presentation.

NOTE:

Course materials and grades will be posted on Blackboard System. Please make sure that you have access to the blackboard and your **USC account** is up and running.

Due to administrative processes, this syllabus is subject to change. It is the student’s responsibility to verify with the instructor regarding any updates.

Tentative Course Outline¹:

Week of		Topics	Project / Assignments
01	Aug 26	Introduction and Logistics of the course Principles of Quality Management	
02	Sep 2	History of Lean operations Sec. 1: Long Term philosophy Case Study: Quality Awards and Certifications	<i>HW1 – Team Presentation</i>
03	Sep 9	Sec. 2: Right process, Right results (Part I and II)	<i>Homework 2</i>
04	Sep 16	Sec. 2: Right process, Right results (Part III and IV) Case Study T1: One-piece-flow and Pull system Case Study T2: Leveling & Poka Yoke	<i>Team 1 Presentation Team 2 Presentation</i>
05	Sep 23	Sec. 2: Right process, Right results (Part V) Case Study T3: Standardized work & Technology adaptation Exam Review	<i>Team 3 Presentation</i>
06	Sep 30	<u>October 1 – Exam 1</u> Sec. 3: Add value to the Org. by developing people & partners	<i>Homework 3</i>
07	Oct 7	Sec. 4: Continuous problem solving & organizational learning Case Study T4: Lean Supply Chain	<i>Team 4 Presentation</i>
08	Oct 14	Ch2: Principles of Six Sigma October 17 – Fall Recess – University Holiday	<i>Homework 4</i>
09	Oct 21	Ch3: Six Sigma project organization, selection and definition	-
10	Oct 28	Exam Review <u>October 31 – Exam 2</u>	<i>Homework 5</i>
11	Nov 4	Ch4: Process Measurement Case Study: Process Mapping	-
12	Nov 11	Ch5: Process Analysis Ch6: Process Improvement	<i>Homework 6</i>
13	Nov 18	Ch7: Process Control	-
14	Nov 25	Case Study: Process Control November 28 – Thanksgiving – University Holiday	-
15	Dec 2	Ch8: Design for Six Sigma Final Review	<i>Homework 7</i>
Tuesday, December 17		<u>Final Exam (2-4 pm²)</u> - Mandated by USC Schedule	

¹ Schedule may be revised to accommodate the content and pace of the class learning process. Due dates and case studies are subject to change.

² **Confirm the time and date of the exam on the USC website.**