SYLLABUS
EDISON COMMUNITY COLLEGE
IMT 244S – LEAN SYSTEMS
4 CREDIT HOURS

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Course Description

Examines the principles of Lean Systems and is taught as a concise and coherent strategy for today's business leaders. The importance of efficient, lean methodologies cannot be overemphasized in the global market where the traditional methods can result in a net loss of competitiveness. Lean philosophies are introduced in a very practical and intuitive style with plenty of examples from research, text, and real life examples.

Course Goals

The student will:

- Explain basic Lean and Six Sigma terms and how they intersect to eliminate waste and reduce process variation.
- Identify the eight operational deadly wastes (Muda) within manufacturing and service environments.
- Calculate process cycle efficiency, takt time, and throughput speeds to measure system bottlenecks.
- Draw a current-state Value Stream Map (VSM) to distinguish between value-added and non-value-added activities.
- Create standard work documentation and visual management tools to stabilize chaotic processes.
- Apply the 5S methodology to organize workplace layouts, optimize setups, and minimize motion waste.
- Design a basic continuous flow cellular layout using kanban pull triggers to eliminate excess inventory.
- Construct basic quality-tracking tools including Pareto charts, fishbone diagrams, and error-proofing (Poka-Yoke)
  mechanisms.

Required Materials

- **Book:** *Lean Six Sigma That Works: A Powerful Action Plan for Dramatically Improving Quality, Increasing Speed, and Reducing Waste*
- **Author:** Bill Carreira
- **ISBN-13:** 978-0814473474
- *Visit the bookstore website for more information!*

Technical Requirements

You will need access to a computer that has high speed internet with an up-to-date browser. Use the latest version of Google Chrome for your work in this course. A desktop PC (or most laptop computers) with Windows 10 works best. You will also need access to Office 2019 or Office 365 and a Broadband Internet connection.

A PC running Windows is required to complete 100% of your work; a Mac will allow you to complete 90%, a Chromebook 50%. If you do not have access to a PC, contact your instructor immediately.

Weekly Schedule of Topics, Activities, and Assignments

Week	Topic / Area of Focus	Readings & Assignments
Week 1	**Introduction to Lean Six Sigma** The shift from traditional push manufacturing to lean pull systems.	**Read:** Chapter 1 **Assignment 1:** Discussion Questions
Week 2	**The Financial Case for Lean** How waste reduction directly drives profitability.	**Exam 1** – Chapter 1
Week 3	**Identifying the Deadly Wastes** The 8 forms of waste (Muda) on the shop floor.	**Read:** Chapter 2 **Assignment 2:** Discussion Questions
Week 4	**Mapping the Process Flow** Foundations of tracking materials and information.	**Exam 2** – Chapter 2
Week 5	**Value Stream Mapping (VSM)** Differentiating value-added from non-value-added actions.	**Read:** Chapter 3 **Assignment 3:** Discussion Questions **Project Report 1:** Select Local Business Profile
Week 6	**Takt Time and Demand Rate** Aligning production speed precisely with customer demand.	**Exam 3** – Chapter 3
Week 7	**Workplace Organization (5S)** Sort, Straighten, Shine, Standardize, and Sustain.	**Read:** Chapter 4 **Assignment 4:** Discussion Questions
Week 8	**Midterm Evaluation** Comprehensive midterm benchmark review.	**Exam 4 (Mid-term)** – Chapters 1–4 **Project Report 2:** Gathered Operational Data
Week 9	**Continuous Flow & Manufacturing Cells** Designing u-shaped work cells to minimize motion waste.	**Read:** Chapter 5 **Assignment 5:** Discussion Questions
Week 10	**The Kanban Pull System** Using visual cards to eliminate overproduction inventory.	**Exam 5** – Chapter 5
Week 11	**Standard Work Foundations** Documenting best practices to eliminate process variation.	**Read:** Chapter 6 **Assignment 6:** Discussion Questions

Week 12	**Setup Reduction (SMED)** Techniques to slash changeover times down to single digits.	**Exam 6** – Chapter 6 **Project Report 3:** Root-Cause Analysis
Week 13	**Quality Control & Six Sigma Metrics** Measuring defects per million opportunities (DPMO).	**Read:** Chapter 7 **Assignment 7:** Discussion Questions
Week 14	**Error-Proofing (Poka-Yoke)** Designing processes that make errors impossible to commit.	**Exam 7** – Chapter 7
Week 15	**Sustaining the Continuous Improvement Culture** Deploying Kaizen events and engaging frontline workers.	**Read:** Chapter 8 **Assignment 8:** Discussion Questions
Week 16	**Final Evaluation Block** Comprehensive final performance assessment.	**Exam 8 (Final Exam)** – Chapters 5–8 **Project Report 4:** Final Operations Audit Portfolio

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Homework Assignment Expectations

- **Assignments:** Each assignment is due by Sunday, midnight Eastern Time. Upload files via Blackboard using `.doc`, `.docx`, or `.pdf` formats ONLY.
- **Exams:** Each online exam must be completed and submitted by Sunday at midnight Eastern Time.
- **Project Reports:** Each of the 4 milestone submissions for the Lean Process Analysis project must be uploaded to Blackboard by Sunday at midnight Eastern Time.

Evaluation Methods

The course will be graded based on the cumulative points earned across the following items:

Activity Type	Point Breakdown	Total Value
Exams (6)	50 points each	300 points total
Midterm & Final Exam	75 points each	150 points total
Discussion Questions (8)	43.75 points each	350 points total
Operations Project Report	4 submissions @ 50 points each	200 points total
TOTAL COURSE POINTS		**1000 Points Total**

Grading Scale

900-1000 A

800-899	B
700-799	C
600-699	D
0-599	F

Coursework will be graded for accuracy and completeness. Final grade will be determined by the quality and quantity of work according to the above schedule of accumulated points. The instructor reserves the right to raise or lower the final grade based on the student's participation attendance, or other circumstances.

PLEASE NOTE: Proper spelling, grammar and punctuation will be expected and will be part of your grade. The instructor reserves the right to reject any written assignment with five or more grammatical errors.

The grade book function of Blackboard will be used in this course. Up to date grades will be found in that area.

Policy Statements

Class Participation

Participation is important to success in this class. Attendance in this class is defined as staying on target with reading assignments, posting assignments, timely reading and responding to emails, and meeting deadlines as outlined in the syllabus. It is not simply logging into the blackboard site.

Communication

I can be reached by email at any day during this course skunzelman@edisonstate.edu. I will respond to your email within 48 hours of receiving the communication. To facilitate a quicker response, please list your name and IMT 220S in the subject line of the email. For example, Edison Student-IMT 220S.

Academic Integrity

Sharing of ideas and a work-group atmosphere will be encouraged. However, each student is expected to so his or her own work on assignments and projects. The ECC Academic Honesty Policy will be adhered to. Please refer to your student Handbook posted on the Edison Website.

Plagiarism and cheating are serious offenses and may be punished by failure on an assignment/quiz/test, failure in course, and/or expulsion from the College. If a student is found to have cheated or copied another's work, the student will receive no credit for the assignment, and the assignment may not be resubmitted nor substituted.

You are responsible for keeping your assignments secure so other students cannot have access to them or copy them.

Academic Support

***Learning Center**

The Edison Community College Learning Center is available to help students by offering a wide range of programs and services to support learning. There are tutors available in a variety of subjects. You may either stop in while on campus or call to find out information on when tutors for specific subjects are available. The Learning Center is located in the library and is open:

- Monday - Thursday 8:30am - 7pm
- Friday 8:30am - 4pm

You can contact the Learning Center by calling 937-778-8600, Ext 7956 or 7959, or visit their website at http://www.edisonohio.edu/LearningCenter/

***Library**

The Edison Community College Library exists primarily to function as a full partner in the teaching and learning process, as the major information resource on campus. The library is open:

- Monday - Thursday 8:30 am - 7pm
- Friday 8:30 am - 4pm

You can contact the library at 937-778-8600 Ext. 7950 or visit their website at http://www.edisonohio.edu/library

Computer Labs

Computers are available for Internet research in the Internet Café. Other computer labs and facilities are available on both campuses. In the event of home computer difficulties, students are expected to see out other school or community computer resources.

Disability Policy

Edison Community College will make reasonable accommodations for persons with documented disabilities. If you feel you require an accommodation based on the impact of a disability, please make an appointment with the Coordinator of Disability Support Services in room 160. She will work with you and your instructor to ensure that appropriate accommodations are made. Please contact 1-800-922-3722 ext. 7837.

Core Values

The Core Values are a set of principles which guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry/respect for learning, and interpersonal skills/teamwork. The goals, objectives and activities in this course will introduce/reinforce these Core Values whenever appropriate.

GRADING in WebAdvisor: A **Mid-term grade** and a **final grade** will be reported in WebAdvisor. The work used to determine mid-term grades will be specifically outlined by your instructor.

GRADES

Your grades for this class are reported in Blackboard. Use POINTS in Blackboard to determine your final grade. **Do not use the average that Blackboard displays.** The method that Blackboard uses to compute an average can be deceiving. Your final grade in the class will be determined by the total number of points that you have earned. Your instructor will apply your total points to the grade scale (above) to determine your final letter grade in the course. **LATE**

ASSIGNMENTS WILL NOT BE ACCEPTED UNLESS PERMISSION GIVEN BY THE INSTRUCTOR.

An **incomplete** ("I" grade) can only be given if you have:

1. Tested regularly and in accord with the course schedule up to the last withdrawal date.
2. Completed all the requirements up to the withdrawal date.
3. Received a passing grade on all work.
4. Provided a documented, verifiable reason for being unable to complete the course.

To receive an incomplete, you **must** meet all the criteria listed above. An incomplete grade cannot be given after the grades are turned in to the Registrar's Office.

Attendance and Participation:

- Edison State Community College believes that students must attend class if they are to be well prepared for the workplace. Web-flex and online courses are no different from traditional classroom courses in this regard. Online students are subject to the same attendance policy and procedures as traditional students.
- Discussion Initial Blackboard postings are to be posted by Thursday of the week assigned. Follow-up posts, and responses to your participants are due by Sunday at midnight EST.
- Regular participation in the Blackboard course site will help to keep students on task with their weekly assignments.
- Each student will check into the course site a minimum of 5 times a week. (Note: Blackboard statistics are automatically recorded each time you log into Blackboard.)
- You are required to notify the instructor in advance whenever possible if you are unable to meet time requirements or deadlines.
- If you become ill or have a family emergency, please contact the instructor as soon as possible to notify her of the reason. Students will still be required to complete all assignments. During a hospital stay or doctor's visit and note from the doctor with date and time will be required
- Participation is directly tied to how much you can learn; therefore, participation will contribute to your grade as shown above. Logging into your computer and/or Blackboard is not considered participation. If you have any concerns regarding your abilities to take part, please notify your instructor as soon as possible.
- Failure to attend class does not constitute an official withdrawal. The responsibility for withdrawal prior to the published withdrawal deadline always lies with the students.
- Students are financially responsible for costs associated with classes that they have withdrawn from after the published Add/Drop date. New federal mandates for students receiving financial aid state that attendance is to be calculated based on "academic-engagement," which means that coming unprepared for class just to be present and not doing any homework will not equal attendance.

Electronic Submission Statement (*when applicable*)

The assignments must be submitted through the Assignments page in the Blackboard site. E-mailed assignments will not be accepted. Files must be uploaded as attachments using .doc, .docx, .ppt, .pptx, .pdf, format ONLY. Files not submitted in the approved format will be graded as a zero.

Email

Check your ESCC e-mail account frequently for communication about this course. Once a day, Monday through Friday, is the best policy. Emails sent through Blackboard will be located in your Edison email (all students, faculty, and staff are required to use their Edison email account for ALL college communication. Email from personal accounts will not be responded to. My Email is skunzelman@edisonstate.edu.

Grading Turnaround Policy

Graded assignments will be returned within one week from their due date (some exceptions may apply). Assignments submitted early may not be returned until one week from the due date.

Instructor Contact Information

Please contact the instructor at email: skunzelman@edisonstate.edu. Emails requesting responses will be returned within 24-48 hours. Weekends and holidays will be an exception and may be longer.

Late Policy

Assignments will NOT be accepted after the due date stated on the Syllabus unless the instructor is contacted 24 hours before the assignment is due. Please contact instructor at email: skunzelman@edisonstate.edu.

Netiquette Statement

Remember proper discussion and email etiquette:

Use proper grammar, text language is not acceptable
Do not use all CAPS (it makes it appear that you are shouting.)
Think before you post - use the rule of thumb: Would I want to see this on the top of a social media feed?

Unlike a traditional class where we can see and speak to each other, an online course does not allow us to use nonverbal cues (facial expressions, tone of voice, gestures). Remarks that might be humorous when spoken can easily be misconstrued when written. Choose your words with care to lessen the chance that you will be misunderstood or misinterpreted.

Plagiarism Policy

Intentional academic dishonesty will result in referral to the Dean for appropriate action and a grade of "F" given for the course. Please refer to the Edison State Community College Student Handbook for a detailed explanation of academic dishonesty.

Respect Statement

This course is reliant on dialogues between and among class members. Occasionally, we will be dealing with controversial topics about which individuals may have strong or differing opinions. Therefore, it is crucial that we work together to cultivate a respectful classroom space in which everyone can share their reactions and analyses comfortably. This means

being considerate and patient with everyone else in the room or online. Verbal bullying and personal attacks will not be tolerated under any circumstances.

Subject to Change Statement

This syllabus is a guideline for the class progression; however, it is subject to change. Changes will be submitted to the class at least one week prior to enactment.

Technology Error Statement

As technology is now a part of our daily lives, computer or electronic malfunction are not valid reasons for late submissions or missing work.

Weather

If there is major snowfall or ice and a warning is issued for Piqua, the Edison State Alert System will send out notification of campus closings or delays (closing and delays will be announced on WHIO TV, as well). Please make sure you are signed up for the Rave Guardian app to receive all warnings and closing information.

TESTING YOUR FAITH ACT POLICY

Edison State Community College is committed to providing an environment respectful of students' beliefs. Students are permitted to be absent for up to 3 days each semester based on their faith, religion, or spiritual belief system with no academic penalty. Students must complete the Testing Your Faith Act Accommodations Form, https://www.edisonohio.edu/services-support/registration-records, located in "Forms" and provide a copy to their individual faculty within 14 days from the start of the course. The entire policy can be found in the student handbook at https://www.edisonohio.edu/services-support/student-resources.