JWI 550: Operational Excellence

Course Guide

COURSE DESCRIPTION

The focus of this course is on the pursuit of operational excellence as a means to increase competitive strength. The goal is to provide students with the understanding and tools necessary to identify opportunities for improving the effectiveness and efficiency of processes. This course includes topics such as value stream mapping, process analysis, quality, customer-focused design, Six Sigma, and Lean.

MANAGING OPERATIONS

Every single function in an organization is built around processes. It doesn't matter whether those processes fall under the domain of finance, marketing, sales, general management, or anything else. There are processes in place for what has to get done. Sometimes, these are well thought out and have been tested and improved over time. In other situations, they may have just evolved without anyone asking the right questions: *Why do we do it this way? Could we do it better? What would need to change in order to improve both how the work gets done and what the work produces?*

Organizations struggle with many types of performance challenges. We have found it helpful to organize these into categories so that managers and leaders can direct their efforts toward identifying and solving the *right* problem. We refer to these as "The 5 Operational Failings in Business."

1. The products or services produced cost too much
2. Production and/or delivery moves too slowly to keep up with customer demands
3. There are too many quality issues
4. The organization doesn't manage risks well enough
5. The organization is not able to innovate and be agile

As Operations Management has evolved, models and tools have been developed to help us ask better questions, gather the data we need to answer those questions, and take steps to change the processes in ways that improve the work environment and strengthen the business. This course explores how operational excellence provides a strategic competitive advantage.

OUR APPROACH

This course is built on a foundational principle that guides everything we cover – that everyone in the organization is responsible for operational excellence. Everyone is able to *find a better way every day*. As such, we approach Operations Management (OM) not as a stand-alone functional area, but as a set of principles and tools that leaders can share across their teams to make the organization more competitive. As we explore the various topics in our course, we will do so through a consistent approach:

- Understand the current state of operational performance
- Identify opportunities for improvement
- Ask the right questions, focusing on what really matters
- Gather the right data and apply the right tools to answer those questions
- Develop, present, and implement viable solutions to improve performance and outcomes

To help ensure that the topics we cover make sense and that you emerge from the course with tools you can use, we will leverage three primary types of activities which, together, will comprise your final grade:

1. **Operations Management Course Project**: this course has one major project that is broken into 3 parts (assignments). The project is designed to help you take what you are learning and apply it to a real-life situation in *your* organization that could benefit from operational changes to improve efficiency and/or effectiveness and strengthen your competitive advantage.
2. **Knowledge Checks:** these are short, auto-graded quizzes that will help you assess your understanding of the topics covered that week and apply your skills in completing calculations critical to OM practices.
3. **Discussion Questions**: these are designed to help you explore the topics we cover in greater depth through exchanges with your professor and fellow students. These discussions are opportunities to share real-world experiences and dig deeper into OM practices and applications.

NOTE:
As you work through the course, you will notice a pattern to the way the due dates for graded activities are scheduled. Each of the 3 assignments that make up the Course Project and each of the 5 Knowledge Checks are due at least ONE WEEK AFTER the relevant core content is covered. This allows time to review and digest the materials before your work must be submitted. The Discussion Questions, however, align to the content covered that week, since they are designed to engage students in a dialogue with each other and with their professor as each topic is introduced and explored.

YOUR ROLE IN THE COURSE

As you have seen in other JWMI courses, JWI 550 presents the material with a focus on practical application. Students should be able to take what they learn in the course and immediately apply it on the job.

Therefore, you should approach this course through the eyes of a manager who has been charged with identifying operational shortcomings and making meaningful improvements. This may be natural if you are already focused on continuous improvement at work. But even if you are not, or if you think the operations for which you are responsible are running in tip-top form, the tools and techniques we cover will inspire you to challenge existing assumptions to *find a better way every day*.

COURSE STRUCTURE

Theme	Weekly Topics	Key Content
Process and Value: The Foundations of Operational Excellence	1. Introduction to Operational Excellence	Our course is built on the principle that *every* activity undertaken by *every* employee in *every* organization is an operation. We begin our journey toward operational excellence with an examination of the critical importance of running a business that is both efficient and effective at generating value. If you can do this, you can create a competitive advantage that can drive profitable growth.
	2. Mapping and Analyzing Value Streams	Value stream mapping is a powerful way to gain insight into how value and waste occur from input to output. Value stream maps, and the metrics that are applied to them, are used to enable stakeholders to visualize how work and information flow to create value.
	3. How Work Gets Done	In operations management, the term *process* refers to how work gets done. It applies to both service and manufacturing activities. Developing a detailed understanding of how work flows from start to finish is a critical step in identifying opportunities for improvement. A common mistake of overly eager managers is attempting to implement process improvements without understanding the current state of the process.
	4. Designing and Managing Operational Processes	Designing successful processes and managing them effectively requires an understanding of how they differ from one another. Some process types are more suitable for flexibility and customization, while others are more suitable for mass production. Leveraging the right process type can help your organization win.
Applying the Tools of Operations Management	5. Lean, Not Mean: Take the Work Out	When teams have to deal with slow and cumbersome processes that create extra work, it increases employee frustration and undermines the organization's competitive strength. Over the next five weeks, we will explore and apply tools that can improve operational processes and strengthen the competitive advantage of your organization. Our focus this week is on how to use Lean to streamline workflow, improve efficiency, and increase employee engagement.
	6. Inventory and Supply Chain Management	We continue our pursuit of operational excellence by exploring inventory and supply chain models to identify the right balance among operational capacity, inventory, and effectively meeting customer requirements.
	7. Why Quality Matters: Errors Cost Money	Errors come in all shapes and sizes. Common examples include: (1) processes that don't meet requirements, (2) products that fail in your customers' hands, (3) services that don't deliver what you promised, and (4) late deliveries. Not doing it right the first time is wasteful and negatively impacts both cost and revenue.
	8. Variation Is Evil: Reduce It With Six Sigma	Your customers want predictability and reliability. Whenever there is a cost, quality, or lead-time variation from specification, it's a recipe for disaster. Six Sigma is a powerful tool that identifies and isolates the causes of variation. We will examine how it can be used to help your business save money and deliver a better experience to customers.
	9. Customer-Focused Design	Product and service design are strategic initiatives that impact the entire value chain of an organization and its competitive advantage. Tools such as Design Thinking and Design for Six Sigma can help you deliver better solutions and win customers.
From Operational Wins to Competitive Advantage	10. Implementing Operational Excellence	Continuous improvement should be the norm; *good enough* is not good enough. The pursuit of operational excellence must be an ongoing effort. In fact, it should be an organizational value – a behavior you identify, measure, and reward. As our course draws to a close, we focus on what it takes to sustain your operational "wins" and achieve competitive advantage.

INSTRUCTIONAL MATERIALS

Required Resources

- Karen Martin and Mike Osterling, *Value Stream Mapping*. McGraw-Hill, 2014.

Additional Resources (provided within the course)

- Videos and lectures
- Operations Management readings
- Supporting articles and other references

COURSE LEARNING OUTCOMES

1. Describe how operational excellence can create a competitive advantage
2. Leverage the tools of Lean to improve operational excellence
3. Explain the impact of Quality and Six Sigma on operational excellence
4. Explore the impact of customer-focused design strategies on operational excellence
5. Map and analyze end-to-end business processes in order to recommend improvements
6. Communicate clearly and concisely about operational excellence

CONTACT INFORMATION FOR PROBLEMS OR ISSUES

- Have a curriculum-related question? Contact your instructor for assistance.
- Have a technology-related question? Contact JWMI Tech Support at (888) 596-5964 x3 or techsupport@jwmi.com.
- Have a student services-related question? Contact Student Services at (703) 561-2128 or stusupport@jwmi.com

COURSE OUTLINE

This 4.5 credit-hour Masters-level course is designed with the goal of having each student spend 10-15 hours (13.5 hours on average) in weekly work. This includes preparation, activities, discussions, and assignments; live or online; individual or in groups.

Week	Preparation, Activities, and Evaluation
1	**INTRODUCTION TO OPERATIONAL EXCELLENCE** **Learning Outcomes** • Explore the importance of operations in achieving competitive advantage • Describe key characteristics of operational excellence • Understand the role of value stream mapping as a tool to manage operations **Weekly Materials and Readings** • Week 1 Lecture Notes • Martin & Osterling: *Value Stream Mapping*: Introduction • Martin & Osterling: *Value Stream Mapping*: Chapter 1: Value Stream Management • Martin & Osterling: *Value Stream Mapping*: Chapter 2: Setting the Stage and Enabling Success • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion: *Operational Excellence and Competitive Advantage* **Assignments** • None

Week	Preparation, Activities and Evaluation
2	**MAPPING AND ANALYZING VALUE STREAMS** **Learning Outcomes** • Learn how to create a value stream map • Apply value stream mapping to map end-to-end processes • Analyze a value stream for improvement opportunities **Weekly Materials and Readings** • Week 2 Lecture Notes • Martin & Osterling: *Value Stream Mapping*: Chapter 3: Understanding the Current State • Martin & Osterling: *Value Stream Mapping*: Appendix • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion*: Value Stream Mapping* **Assignments** • None

Week	Preparation, Activities and Evaluation
3	**HOW WORK GETS DONE** **Learning Outcomes** • Understand the importance of process analysis in any organization • Calculate process metrics to explain operational outcomes • Analyze a process for improvement opportunities **Weekly Materials and Readings** • Week 3 Lecture Notes • Shapiro: "Operations Management Reading: Process Analysis" • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion: *Process Performance Impacts Competitive Advantage* **Assignments:** • Assignment 1: Value Stream Mapping and Analysis Due: Sunday, midnight of Week 3 (20% of course grade)

Week	Preparation, Activities and Evaluation
4	**DESIGNING AND MANAGING OPERATIONAL PROCESSES** **Learning Outcomes** • Explore various process types and explain their significance • Identify challenges and benefits of different process types in achieving a profitable operation • Evaluate the best process types for your organization **Weekly Materials and Readings** • Week 4 Lecture Notes • Martin & Osterling: *Value Stream Mapping*: Chapter 4: Designing the Future State • Shapiro: "Operations Management Reading: Designing, Managing, and Improving Operations" • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion*: Types of Processes* • Knowledge Check #1 **Assignments** • None

Week	Preparation, Activities and Evaluation
5	**LEAN, NOT MEAN: TAKE THE WORK OUT** **Learning Outcomes** • Understand Lean and its applicability to your industry • Identify key priorities of the Toyota Production System (TPS) and Lean • Apply Lean tools to improve processes in a value stream **Weekly Materials and Readings** • Week 5 Lecture Notes • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion: *Applying Lean in Your Organization* • Knowledge Check #2 **Assignments** • None

Week	Preparation, Activities and Evaluation
6	**INVENTORY AND SUPPLY CHAIN MANAGEMENT** **Learning Outcomes** • Explore inventory and supply chain management strategies • Evaluate different inventory models to maximize efficiency and effectiveness • Explain ways to manage risk and optimize supply chain operations **Weekly Materials and Readings** • Week 6 Lecture Notes • Hammond: "Operations Management Reading: Managing Inventory" • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion: *Inventory and Supply Chain Management* **Assignments** • Assignment 2: Detailed Agenda for Kaizen or Work-Out Due: Sunday, midnight of Week 6 (20% of course grade)

Week	Preparation, Activities and Evaluation
7	**WHY QUALITY MATTERS: ERRORS COST MONEY** **Learning Outcomes** • Define quality and explore proven methods to manage it • Distinguish between performance quality and conformance quality • Evaluate costs of poor quality (COPQ) and how to address them **Weekly Materials and Readings** • Week 7 Lecture Notes • Bohn: "Operations Management Reading: Managing Quality" • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion: *Why Quality Matters* • Knowledge Check #3 **Assignments** • None

Week	Preparation, Activities and Evaluation
8	**VARIATION IS EVIL: REDUCE IT WITH SIX SIGMA** **Learning Outcomes** • Explore the key objectives of Six Sigma • Summarize the phases of a Six Sigma project • Apply Six Sigma tools and techniques to improve outcomes **Weekly Materials and Readings** • Week 8 Lecture Notes • *Six Sigma Foundations* course (Linkedin Learning) • Additional resources in the Weekly Materials module in Blackboard **Activities** • Discussion: *Applying Six Sigma* • Knowledge Check #4 **Assignments** • None

Week	Preparation, Activities and Evaluation
9	**CUSTOMER-FOCUSED DESIGN** **Learning Outcomes** • Explore the principles and application of Design Thinking • Explain how the voice of the customer should drive design strategy • Describe how Design for Six Sigma implements customer-focused design **Weekly Materials and Readings** • Week 9 Lecture Notes • Additional resources in the Weekly Materials module in Blackboard **Activities** • Weekly Discussion: *Product and Service Design* **Assignments** • Assignment 3: Six Sigma Project Charter Due: Sunday, midnight of Week 9 (15% of course grade)

Week	Preparation, Activities and Evaluation
10	**IMPLEMENTING OPERATIONAL EXCELLENCE** **Learning Outcomes** • Explore the implementation challenges of Operational Excellence • Identify key organizational roles when implementing Operational Excellence • Plan next steps you can apply in your organization to win **Weekly Materials and Readings** • Week 10 Lecture Notes • Martin & Osterling, *Value Stream Mapping*: Chapter 5: Developing the Transformation Plan • Martin & Osterling, *Value Stream Mapping*: Chapter 6: Achieving and Sustaining Transformation • Additional resources in the Weekly Materials module in Blackboard **Activities** • Weekly Discussion: *Lessons Learned in Operational Excellence* • Knowledge Check #5 **Assignments** • None

GRADING SCALE – Graduate

Graded Activities	% of Grade
Discussion Questions (10 Total – one each week) Due: Initial post due by midnight on Wednesday each week; responses to two student posts due by midnight on Sunday of that week	25
Knowledge Check Quizzes (5 Total) Due: Sunday, midnight of Weeks 4, 5, 7, 8, and 10	20
Course Project Part A: Value Stream Mapping and Analysis Due: Sunday, midnight of Week 3	20
Course Project Part B: Detailed Agenda for Kaizen or Work-Out Due: Sunday, midnight of Week 6	20
Course Project Part C: Six Sigma Project Charter Due: Sunday, midnight of Week 9	15
Total	**100%**

Operations Management Course Project (55% of course grade)

Overview

The Operations Management Course Project presents an opportunity to take what you are learning and apply it to your job. The project will help you develop a practical set of skills that can make a real difference at your workplace. In this project, you will:

I. Identify an area of potential improvement in your organization that would have a meaningful, measurable impact on your business.

II. Apply the tools we are studying in this course to analyze the situation and take steps to design and implement improvements. This will be done in 3 phases which, together, will form your Course Project.
   a. Value Stream Mapping and Analysis (due: Week 3)
   b. Building Detailed Agenda for Kaizen or Work-Out (due: Week 6)
   c. Creating Six Sigma Project Charter (due: Week 9)

Each of these three components will be explained in detail in the pages that follow. As you study each topic in the course, you should be actively gathering the data you need from your workplace that will be used in completing the assignment.

How to Be Successful with Your Course Project

The assignment components do not require massive amounts of writing or the creation of lengthy PowerPoint presentations. These assignments are not academic or research papers. They do, however, require that you stay on top of the workload in the course and are aware of when components of the assignment are due. You must also bear in mind what steps you must take to apply what you are learning to your workplace.

Keep in mind that this project requires that specific real-world data and processes be used. Turning in generic deliverables that do not relate to actual data will be insufficient to earn high marks.

The more you can do to identify a value stream or end-to-end process that you are genuinely interested in improving, the more meaningful this project will be to you. You are strongly encouraged to reach out to your professor early in the process to discuss your choice and to clarify the scope and the challenges that must be addressed in gathering the data you need to complete the assignment components.

Keep in mind, the value stream selected for your project doesn't have to be huge (like reengineering your entire supply chain). It does, however, have to be something you know about, a value stream you work with regularly that is a source of frustration or opportunity. Maybe the processes in the value stream are working *well enough*, but you know there's potential to do even better. Maybe the processes are broken and a constant source of frustration for your team members or for other departments. Maybe it's something you feel your competitors are doing better than you are, and you sense you are at a competitive disadvantage. You don't need to aspire to bring about a gigantic disruptive innovation (although if you can do that, that's great!). Remember what Jack says: "Innovation doesn't have to be about *eureka*, it can be about finding a better way every day."

Operations Management Project Part A: Value Stream Mapping and Analysis
Due: Sunday, midnight of Week 3 (20% of course grade)

Overview

A core tool in Operational Excellence is **Value Stream Mapping**. This tool helps stakeholders visualize complex work systems (including material and information flows) and address disconnects, redundancies, and gaps in how work gets done between the beginning and end of a value stream or end-to-end process.

- The primary type of value stream is one in which a product or service is requested by, and delivered to, an external customer. Examples include request to receipt, order to delivery, and quote to cash.

- Other value streams which support the delivery of value are called value-enabling or support value streams. Examples include recruiting, onboarding, IT support, and annual budgeting.

Since it is nearly always a mistake to initiate changes without have a clear picture of how the system is currently functioning, we are beginning our Course Project with the creation and analysis of a Value Stream Map.

Instructions

For this assignment, select a value stream in your organization that can benefit from analysis and improvement. As noted previously, the value stream (or end-to-end process) selected does not need to be overly large or complex. Select something which has the potential for meaningful improvement, but which is manageable within the scope of this assignment.

1) Develop a current state Value Stream Map of your selected value stream. Show the customer demand rate (or Takt), information flow, work flow, and summary timeline on the map.

2) Document key metrics for each process block:
   - Process Time (PT)
   - Lead Time (LT)
   - Percent Complete and Accurate (%C&A)
   - Any other appropriate metrics, such as number of operators, changeover time or setup time, batch size, and % uptime.
3) Calculate the current state summary metrics:
   - Total lead time (Total LT)
   - Total process time (Total PT)
   - Activity Ratio (AR)
   - Rolled Percent Complete and Accurate (Rolled %C&A)

4) Describe the current state of the value stream and highlight any performance deficiencies and challenges, such as delays, excessive WIP, bottlenecks, capacity and workload imbalances, rework, poor quality yields, long lead times, and other operational issues.

Submission Requirements

Your work may be submitted in either Word or PowerPoint.

- Since you will need to include a diagram to map the value stream for #1, you should select whatever software you are most comfortable working with. The Value Stream Map can easily be created in PowerPoint (see the symbols and template provided by the instructor), or neatly drawn by hand. You may also use software such as Visio. In all cases, please scan or convert your map to a PDF or JPG, and paste it into Word or PPT before submitting.

- For #2, the information for each process block should be on the value stream map. For #3, it can be on the map or in tabular form. Show how the summary metrics are calculated. Keep your written answers brief and to the point. Accuracy is what matters. This should take no more than one page. There are no additional points for overly elaborate responses.

- For #4, a thorough response with specifics should take no more than one page. As you discuss improvement opportunities, mention and make specific reference to the Value Stream Map, including names of process blocks and performance metrics.

RUBRIC: Part A

CRITERIA	Unsatisfactory	Low Pass	Pass	High Pass	Honors
Develop a current state Value Stream Map of your selected value stream Show the customer demand rate (or Takt), information flow, work flow, and summary timeline on the map. **Weight: 25%**	No Value Stream Map included and/or incomplete or inaccurate use of mapping conventions or symbols.	Value Stream Map shows the basics of the work flow and process blocks.	Value Stream Map shows information flow, work flow, and process blocks.	Value Stream Map shows customer demand rate (or Takt), information flow, work flow, and process blocks.	Value Stream Map gives a complete, detailed, and accurate picture of the current state, showing customer demand rate (or Takt), information flow, work flow, and summary timeline.
Document key metrics for each process block: • Process Time (PT) • Lead Time (LT) • Percent Complete and Accurate (%C&A) Include any other appropriate metrics such as number of operators, changeover time or setup time, batch size, and % uptime. **Weight: 25%**	No key metrics included and/or metrics are incorrect.	At least one key metric documented for all process blocks.	At least 2 key metrics calculated and documented correctly for all process blocks.	All key metrics calculated and documented correctly for all process blocks.	All key metrics calculated and documented correctly for all process blocks, and relevant additional metrics are included.
Calculate the current state summary metrics: • Total Lead Time (Total LT) • Total Process Time (Total PT) • Activity Ratio (AR) • Rolled Percent Complete and Accurate (Rolled %C&A) **Weight: 25%**	No key metrics are calculated correctly.	At least one key metric is calculated correctly.	At least 2 key metrics are calculated correctly.	3 key metrics are calculated correctly	All 4 key metrics are calculated correctly.

Describe the current state of the value stream and highlight any performance deficiencies and challenges - such as delays, excessive WIP, bottlenecks, capacity and workload imbalances, rework, poor yields, quality, lead time, and other operational issues **Weight: 25%**	Description of the current state of the value stream is missing or lacking accurate details.	Describes the current state of the value stream, but without sufficient detail.	Satisfactory description of the current state of the value stream, with sufficient detail.	Complete, correct, and accurate description of the current state of the value stream, with good use of relevant metrics and performance levels.	Exemplary description of the current state of the value stream, with excellent use of relevant metrics and performance levels.

Operations Management Project Part B: Detailed Agenda(s) for Kaizen or Work-Outs
Due: Sunday, midnight of Week 6 (20% of course grade)

Overview

Kaizen events or Work-Outs are one- to five-day rapid improvement events widely used in the deployment of Lean and Operational Excellence. Jack was a huge fan of Work-Outs, which were so named because the focus was on getting the unnecessary work *out* of the system. These events were NOT just brainstorming sessions, but were well-planned and highly structured events that had:

- ✓ A well-defined process and set of expectations going in
- ✓ Sufficient time and freedom from distraction so participants could focus on the issues being discussed
- ✓ Participation by key stakeholders all the way from line workers to senior management
- ✓ Clearly defined requirements for decision and action

The second component of your Course Project is to construct a detailed agenda for such an event. The agenda must demonstrate how you will get input from key stakeholders involved with the selected process, use the correct Lean tools, and conclude the event with actionable improvement outcomes.

Instructions

Use your work from Part A of the Project to identify improvement opportunities in the value stream that are suitable for Kaizen events or Work-Outs.

1) List the potential Kaizen events, select the one to be deployed, and justify your selection. Then, define the Kaizen objective and scope for the selected event.

2) Develop a detailed agenda for each Kaizen event. Use a tabular format, showing:
   - Days and times
   - Session topics
   - Lean tools to be used
   - Deliverables or outputs
   - Rationale

Day	Time	Session Topic/Objective	Lean Tools	Output/Deliverables	Rationale

3) Explain your choice for number of days and sequence for session topics, and justify the Lean tools to be used and outputs from each session. Show how your Kaizen agenda supports the Kaizen objective and scope for the event. This discussion should be specific to your value stream and organization.

Submission Requirements

Your work is to be submitted in Word. Total length should be 3 to 4 pages, including the actual agenda.

You are free to organize your submission in whatever way you feel best presents the material and makes it easy to understand. Typically, this will mean presenting each day's tabular agenda in granular detail (15 minute to 2-hour timeslots with details for each session), and then providing supporting pages with additional explanations.

As guidance, design this as a document you would share with your team and/or your supervisor. It should be detailed enough to clearly explain how the event will be structured and why, but concise enough that it will actually get read.

Note: A generic agenda for a Kaizen event or a generic Lean discussion is not acceptable.

RUBRIC: Part B

CRITERIA	Unsatisfactory	Low Pass	Pass	High Pass	Honors
List the potential Kaizen event(s), select the ones to be deployed, and justify your selection. Then, define the Kaizen objective and scope for each selected event. **Weight: 25%**	No potential Kaizen events identified (or selected) and/or objective or scope of events inaccurately defined.	Potential Kaizen events selected, but objective and scope of events not defined.	Potential Kaizen events selected, objective or scope defined with sufficient detail.	Potential Kaizen events selected, objective AND scope defined with sufficient detail.	Potential Kaizen events selected, with excellent definitions of both objective AND scope.
Develop a detailed agenda for each Kaizen event. Use a tabular format, showing: Day and times Session topics Lean tools to be used Deliverables or outputs Rationale **Weight: 30%**	No agenda included.	Agenda showing correct sequence of topics, and student has attempted to use a tabular format. Rationale is missing or unclear.	Kaizen objective and scope, and detailed agenda with correct sequence of topics, Lean tools, and outputs. Clear tabular format and adequate rationale.	Kaizen objective and scope, and complete detailed agenda with all columns addressed correctly. Good tabular format and rationale is well-expressed.	Kaizen objective and scope, and complete detailed agenda with all columns addressed correctly. Good tabular format, and excellent rationale and justification.
Explain your choice for number of days and sequence for session topics, and justify the Lean tools to be used and outputs from each session. Show how your Kaizen agenda supports the Kaizen objective and scope for each event. This discussion should be specific to your value stream and organization. **Weight: 30%**	Incomplete, missing, or unclear explanation of choices and application of Lean tools.	Basic, but incomplete explanation of choices and application of Lean tools.	Good explanation of choices and application of Lean tools, but insufficient or missing explanation of how the Kaizen agenda supports the Kaizen objective and scope for each event.	Excellent explanation of choices and application of Lean tools, and clear explanation of how the Kaizen agenda supports the Kaizen objective and scope for each event.	Exemplary explanation of choices and application of Lean tools, and excellent explanation of how the Kaizen agenda supports the Kaizen objective and scope for each event. Clear indication of specific connections to student's value stream and organization.

Finished product presents enough detailed information to clearly explain how the event will be structured and why, but is concise, well-organized, and easy to read. **Weight: 15%**	Finished product is disorganized and lacks clear explanation of how each event is organized and why.	Finished product is well-organized, but lacks sufficient and/or clear explanation of how each event is organized and why.	Finished product is well-organized and easy to read, but provides only basic information on how each event is organized and why.	Finished product is well-organized and easy to read, and provides clear but concise information on how each event is organized and why.	Finished product is excellently organized and easy to read, and provides clear but concise information on how each event is organized and why. Demonstrates extra attention to clear and visually appealing overall design.

Operations Management Project Part C: Six Sigma Project Charter
Due: Sunday, midnight of Week 9 (15% of course grade)

Overview

Six Sigma projects are powerful tools for achieving breakthrough improvements. Improvement projects utilize the DMAIC methodology, while design or re-design projects use the DMADV methodology. Such projects can be undertaken for large or small initiatives. But because they require a fair bit of work in planning and engaging the team, they are usually applied in situations where a significant change effort is likely to lead to an outcome well in excess of the work put into the project.

In the first two parts of your Operations Management Course Project, you have: (A) mapped and analyzed the value stream, and (B) organized a Kaizen or Work-Out to address improvement opportunities which do not require rigorous data analysis. Now, you are ready to move forward with one or more projects that leverage the power of Six Sigma's tools and rigorous data-driven analysis. A project charter is needed for each proposed Six Sigma project. Project charters enable management to understand, evaluate, and approve projects for launch.

Instructions

Use your work in Part A and Part B of your Course Project, as well as what you have learned so far in this course, to identify a potential Six Sigma project that can benefit the value stream and your organization.

1) List and describe potential Six Sigma project(s) that you would propose to senior management, recommend one project, and justify your selection.
2) Develop a detailed Project Charter for your recommended project. The project charter must include the following:
    a. Problem statement
    b. Goal statement or objectives
    c. Project scope
    d. Critical-to-quality requirements, or CTQs, of the processes within the scope of this project
    e. Key metric Y (or key metrics Y)
    f. Expected operational and financial benefits of the project
    g. Milestone dates for each phase of DMAIC (or DMADV)
    h. Project team (titles of project team leader and members)
    i. Champion (title of executive or senior manager)

Submission Requirements

Your work is to be submitted in Word. Total length should be 3-4 pages. Since this is a charter, put some thought into how best to present the material visually. Use the instructor-provided Project Charter Template as a guide. At an absolute minimum, you should include clear headers and sub-headers. You may also want to call out certain elements, like timelines or key milestones, using graphics, tables, or colors to make the charter visually appealing and easy to read.

RUBRIC: Part C

CRITERIA	Unsatisfactory	Low Pass	Pass	High Pass	Honors
List potential Six Sigma projects that you would recommend to senior management, and justify your selection **Weight: 25%**	No potential Six Sigma projects identified or no justification for selection.	Potential Six Sigma projects identified, but no justification for selection.	Potential Six Sigma projects identified with incomplete or unclear justification for selection.	Potential Six Sigma projects identified with clear justification for selection.	Potential Six Sigma projects identified with clear justification for selection. Provides additional clear connection to specific strategic initiatives in the student's organization.
Develop a detailed Project Charter for each recommended project. The Project Charter must include the following: a. Problem statement b. Goal statement or objectives c. Project scope d. Critical-to-quality requirements or CTQs of the processes within the scope of this project e. Key metric Y (or key metrics Y) f. Expected operational and financial benefits of the project g. Milestone dates for each phase of DMAIC (or DMADV) h. Project team (titles of project team leader and members) i. Champion (title of executive or senior manager) **Weight: 60%**	Missing or inaccurate list of any potential Six Sigma Project Charters.	List of potential Six Sigma projects. Project Charters with bullet points (a) to (f) addressed.	List of potential Six Sigma projects and selection justified. Project Charters complete with all bullet points addressed.	List of potential Six Sigma projects and selection justified. Project Charters complete with all bullet points addressed. Includes detailed and correct entries in Project Charter.	List of potential Six Sigma projects and selection justified. Project Charters complete with all bullet points addressed. Includes excellent, detailed entries in project charter.

Finished product presents responses and recommendations in a well-organized format that is easy to read and free from grammatical errors **Weight: 15%**	Finished product is disorganized and/or difficult to understand and includes significant grammatical errors.	Finished product is free from significant grammatical errors, but it lacks organizational cohesion, making it challenging to read and/or understand the recommendations	Finished product is free from significant grammatical errors and presents responses and recommendations in a satisfactory manner.	Finished product is well-designed and written, with a clear, easy-to-read layout and few grammatical errors.	Finished product is well-designed and written, with a clear, easy-to-read layout and few grammatical errors. Student makes good use of color and/or other design elements to create a visually appealing charter.