

Your curricular change request to revise requirements has been forwarded to:

Vanek, Todd – Director – Engineering and Technology Management

  
G. Todd Vanek (Jun 10, 2022 15:07 PDT)

Field, David - Assoc Dean - VCEA - Grad

  
David Field (Jun 13, 2022 14:29 PDT)

An email approval of the request from both parties is required. Once notification of approval is received from the Department, the request will be forwarded to the Catalog Subcommittee for initial review.

Status of curricular change requests are posted weekly on the curriculum and faculty senate website under tracking notes. Requests will not appear on the tracking notes until departmental approval has been received.

If you have any questions, please email [wsu.curriculum@wsu.edu](mailto:wsu.curriculum@wsu.edu).

**Requested change:** Revise or Drop Graduate Certificate

**Other curriculum change being requested:** Revise required course and electives

**Degree:** Grad Certificate in Constraints Management

**Title:**

**Requested Effective Date:** Fall 2023

**Revise Graduation Requirements:** Yes

### Graduate Certificate in Constraints Management

1. Credit Hours: 9 credit hours total
2. Required Courses
  - a. E\_M 526
  - b. E\_M 530
  - c. E\_M 570
3. GPA requirement: Cumulative GPA may not fall below a 3.0

Request Revision:

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### Graduate Certificate in Constraints Management

1. Credit Hours: 9 credit hours total
  - ~~2.1.~~ Required Courses
    - a. E\_M 526
    - ~~b. E\_M 530~~
    - ~~c. E\_M 570~~
  2. One of
    - a. EM 530 or
    - b. EM 560
3. GPA requirement: Cumulative GPA may not fall below a 3.0

## **Justification for Constraints Management Certificate change to add EM560 Supply Chain management as a Choice Selection**

### **Current Constraints Management Certificate**

1. E M 526 Constraints Management
2. E M 530 Applications of Constraints Management
3. E M 570 Systems Improvement: Integrating TOC, Lean, and Six Sigma

### **Proposed Change**

Add EM 560 Integrated Supply Chain Management and revise choice selections

### **New Constraints Management Certificate**

1. E M 526 Constraints Management
2. Choose one of:
  - a. E M 530 Applications of Constraints Management
  - b. E M 560 Integrated Supply Chain Management (new selection)
3. E M 570 Systems Improvement: Integrating TOC, Lean, and Six Sigma

### **Rationale**

Supply Chain Management include content on supply chain operations and management. The structured dependency of such chains, the uncertainty of forecasts and systemic delays are amplified as individual links in the supply chain try to optimize their own performance. This course examines the strategy and tactics of supply chain management to include “how to” techniques to implement, measure, and reward to maximize supply chain performance and profitability. Theory of Constraints (TOC) topics introduced are the concept of flow, drum-buffer-rope, rapid replenishment, buffer management, and TOC retail and distribution systems.

Having choice selection will stream line the course offerings and allow flexibility to the students to focus on special topics of interest in general constraints management application or supply chain management focus.

Attached Syllabus for EM560

## EM560 – Integrated Supply Chain Management

### COURSE SYLLABUS

*The information below outlines the course content, student learning outcomes, class requirements, assessment methods, grading structure, course outline, and student notices for EM560.*

### COURSE INFORMATION

<b>Course ID:</b>	<b>EM560</b>
<b>Course Title:</b>	Integrated Supply Chain Management
<b>Number of Credits:</b>	3 credits
<b>Prerequisites:</b>	None
<b>Current semester:</b>	Fall 2021
<b>Course location:</b>	Online
<b>Live Class Sessions:</b>	Tuesday, 6:15 – 8:45pm
<b>Instructor:</b>	<b>Luna Magpili, PhD</b>
<b>Contact:</b>	PH 757.632.0419; luna.magpili@wsu.edu
<b>Office Location:</b>	Zoom: <a href="https://wsu.zoom.us/my/luna.mapili">https://wsu.zoom.us/my/luna.mapili</a>
<b>Office hours:</b>	By appointment or after class sessions

**Course description:** Every organization has internal supply chains and links to external suppliers and customers. Interlinking organizations span the spectrum from raw materials to production and distribution to finished products and services to the consumer. The structured dependency of such chains, the uncertainty of forecasts and systemic delays are amplified as individual links in the supply chain try to optimize their own performance. Even minor changes in the environment and external conditions can cause wild swings in supply chain performance. Students learn how modern operations and management theories can stabilize and optimize for the benefit of the whole supply chain. This course examines the strategy and tactics of supply chain management to include “how to” techniques to implement, measure, and reward to maximize supply chain performance and profitability.

## COURSE MATERIALS AND RESOURCES

- Textbook:** *Operations and Supply Chain Management: The Core, 5th Edition*  
By F. Robert Jacobs and Richard Chase  
ISBN10: 1260238881  
ISBN13: 9781260238884  
Copyright: 2020  
Available at  
<https://www.mheducation.com>  
<https://www.amazon.com>
- Building Lean Supply Chains with the Theory of Constraints*  
By Mandyam Srinivasan, Mcgraw Hill Education, 2012.  
Available at <http://www.amazon.com>.
- Software:** Spreadsheet software such as MS Excel or Statistical software; Solver Add-in or OR software (optional)
- Internet Access:** The course requires high-speed Internet access. If you do not have high-speed Internet at home, then consider locations where you are able to access the course website and attend the live class sessions.
- Course Webpage:** All course materials (announcements, instructions, lectures, homework, exams, readings, and solutions) can be accessed via the Canvas course site at <https://wsu.instructure.com>. Class materials are uploaded on a weekly basis. Submissions of all course work should be done through Canvas.
- Live Sessions:** Lecture slides or pre-recorded lectures and materials will be available prior to the live class sessions as needed. If available, make sure to view the pre-recording(s) before attending the live class. The live class sessions will be conducted during the scheduled meeting times via Zoom. The access links to the live class session are located in the Canvas course site. Recordings of the live sessions will also be archived and available in Canvas.

## COURSE LEARNING OUTCOMES AND ASSESSMENT

### Course objectives:

- Students will understand the supply chain in a holistic way by taking into account both internal and external components and interfaces of the various links.
- Students will understand and distinguish various supply chain supply chain structures, systems, functions and processes.
- Students will be able to measure supply chain metrics and performance.
- Students will be able to identify supply chain problems and inefficiencies and apply suitable methodologies and strategies to design and implement a solution.

### Learning outcomes:

- L1. Recognize the goal of the supply chain and explain the impact of supply chain decisions on the success of an organization and/or business.

- L2. Identify and describe major components and links of the supply chain from suppliers to the customers.
- L3. Distinguish and give examples of the various functions and processes of an integrated supply chain that are aligned to business strategies and customer needs.
- L4. Differentiate and apply quantitative and qualitative tools and methods to support supply chain management decisions.
- L5. Analyze and develop solutions for complex supply chain management problems.
- L6. Apply learning outcomes 1-4 in a real-world setting, preferably their own organizational work-related setting.

**Requirements and Evaluation:**

Class/ Homework	30%
Exams	30%
Case Study	30%
<u>Participation</u>	<u>10%</u>
TOTAL	100%

**Classwork:** Exercises will be given in class to be worked on individually or as a group. Only participation will be graded. If a student misses a class, classwork may also be done asynchronously by watching the recording and uploading the classwork in Canvas. Missed classwork should be submitted prior to the next class session.

**Homework:** Weekly homework sets will be assigned and posted on Canvas. Homework will be due the following week prior to class and submitted through Blackboard. Homework sets shall include but not be limited to problem solving, discussion questions, scheduled presentations, research and technical reviews, and reading assignments.

**Midterm:** The midterm is given after Session 6 and covers topics from Sessions 1-6. It will be open notes and open books. Answers and solutions shall be submitted through Canvas on or before the assigned due date. Late submission will not be accepted. The midterm exam is an individual effort. No consultations among students or other individuals are allowed. If you have questions or clarifications, consult with the instructor.

**Final exam:** The final exam is given on the last day of class and covers ALL the topics of the entire course. It will be open notes and open books. Answers and solutions shall be submitted through Blackboard on or before the assigned due date. Again, the final exam is an individual effort. Consultations among students or other individuals are absolutely prohibited. Late submission will not be accepted.

**Case Study:** The class will be divided into teams. Students will sign up or assigned to a team. Each team should have 3-4 members. Team members shall work

together on assigned case problems. Submit your case analysis and discussion points through Canvas on the designated date prior to the scheduled case session. Be prepared to present and discuss your team case analysis and participate in the case sessions.

A portion of the weekly live class session will be allocated to team meetings and collaboration. Teams can opt to meet during that time or schedule alternative meeting times. Student contribution to the team will be determined through peer evaluation and included in the case study grade.

**Participation:** Participation covers a variety of modes. Participation shall include live class participation and contributions in the Blackboard discussion board. Class participation shall also include class exercises and class presentations when assigned. Team participation will be determined through peer evaluation.

**Attendance:** Although attendance is not required, students are responsible to fulfill and timely submit all the requirements of the course including classwork during the live sessions.

**Late Submission:** ALL coursework MUST be completed and submitted by the designated due dates. Full credit cannot be earned by late or incomplete submissions. Coursework lose 10% of their possible value each day late if submitted after the posted due date/time. Coursework lose all of their value at 10 days past due. Late exams without instructor approval will not be accepted.

Exceptions to the above policy may be granted by the Instructor if the instructor receives a request for late submission by email prior to the submission date and for a valid reason. Extenuating circumstances such as work and personal extraordinary demands may be valid reasons for such an exception. Reasonable accommodations can be made with instructor approval.

**Academic Integrity:** ETM requires students to including the following statement on exams and other course assignments as required by the instructor:

*I commit myself to Washington State University's high standards to uphold academic honesty and scholarly values as established by the WSU's Standards of Conduct. I affirm that I have not given or received any unauthorized assistance on this assignment/examination, that the work product presented here is the work of the author(s) [myself or all team members listed], and that all materials from other sources (including books, articles, Internet, or other media), whether quoted or paraphrased, have been properly cited.*

<student signature>

Typing my name above serves as my signature

**Student Effort:** Students will typically be engaged in the following types of activities in an online course: attending and participating in class or listening to the class recording, reading, listening to/ viewing media, participating in online discussions, conducting research, completing individual and team assignments, reviewing instructor feedback, meeting with team members, completing self-assessments, studying for and completing exams, etc. The most important step for being successful in an online graduate course is establish a schedule so that you have dedicated time each week for completing these class related activities – spread over multiple days. In general, students should expect to study a minimum of 6 hours outside class time per class for a 3-credit course. For Spring and Fall courses this equates to 6 hours outside class per week.

**Consultation:** For questions and clarifications, prefer post and use of the discussion forum: ASK the INSTRUCTOR! on the Canvas course site to ensure maximum benefit for the whole class. Extended consultations beyond office hours are by appointment. Contact [luna.magpili@wsu.edu](mailto:luna.magpili@wsu.edu), PH: 757.632.0419, Zoom: <https://wsu.zoom.us/my/luna.mapili> if you would like an appointment. Emails and phone calls without appointment are entertained during business hours, Eastern Standard Time (EST).

**Grading Scale:** If the final % is less than a whole number, the grade will not be rounded

- A 94-100
- A- 90-93
- B+ 87-89
- B 83-86
- B- 80-82
- C+ 77-79
- C 73-76
- C- 70-72
- D 65-69
- F 0-64

### COURSE MAP/ OUTLINE

Session	Topic	Coursework
1	Introduction, Chapter 1 Case 1: The Beer Game Instructions	CW, HW1 *Form Teams *Case1 assigned
2	Supply Chain Strategy, Chapter 2	HW2
3	Supply Chain Integration Case1 Discussions of The Beer Game	CW, HW4 Case1, Peer Eval *Case2 assigned
4	Capacity Planning, Chapter 4 Manufacturing and Service Processes, Chapters 6	CW, HW5



	and 7	
5	Sales and Operations Planning, Chapter 8 Aggregate Planning Master Production Scheduling Materials Requirements Planning, Chapter 9	CW, HW8
6	Case 2 Presentation and Discussion of Supply Chains of Select Company(s) - Timbuk2, Starbucks	Case2, Peer Eval No HW
7	Sessions 1 - 6	Midterm Exam
8	Inventory Management, Chapter 11 Concept of Flow	CW, HW10 *Case3 assigned
9	Lean Supply Chains, Chapter 12 TOC Distribution	Case3, Peer Eval CW, HW11
10	Case 3 Discussion Using Buffer Management	CW, HW9
11	Sourcing and Procurement, Chapter 13 Supplier Relationship Management	CW, HW12
12	Supply Chain Metrics, Risk Management, New Advances and Technologies in Supply Chain Management	CW, HW14
13	Case 4 Presentations of Supply Chain Applications	Case4, Peer Eval No HW
14	Sessions 1-15	Final Exam

**CW-Classwork may be given in class; HW-Homework assigned weekly**









# Constraints summary for MCCF.JPG

Final Audit Report

2022-06-13

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