

**ERP 5310 Supply Chain Management Systems in an ERP Environment
Course Syllabus – Fall 2021**

Department Mission

“To serve the economic interests of industry and the evolving needs of society in a challenging, rapidly-changing, global environment, the Department of Business & Information Technology capitalizes on the strong technological emphasis of Missouri S & T to enable individuals to excel in a technology-centric business world. Recognizing this rapid evolution of the marketplace, we create and disseminate knowledge impacting the theory and practice of business.”

INSTRUCTOR AND COURSE INFORMATION

Instructors: Bih-Ru Lea, Ph.D.	Class Hours: 4 pm –6:30 pm Tuesday
Office: Fulton 102A	Classroom: Fulton 107A
Phone: 573-341-6436	Office Hours: Tuesday & Thursday 11:30 am – 1 pm
E-Mail: leabi@mst.edu	and by appointment (suggest a time via email)
Course Credit: 3 semester hours of credit	
Prerequisite: ERP 2110 or graduate standing	Class Web: http://canvas.mst.edu

COURSE CATALOG DESCRIPTION:

The course studies the need for supply chain integration and the challenges of managing complex interfaces. This course focuses on the systems approach to the planning, analysis, design, development, and evaluation of the supply chain. The course discusses activities that lead to the integration of information and material flows across multiple organizations and analytics that lead to intelligence supply chain management. SAP's S/4HANA ERP system, SCM, SAS Viya (Visual Analytics, Visual Statistics), and Microsoft PowerBI are used to deploy SCM applications.

COURSE OBJECTIVES

As a result of taking this course, students are expected to:

Course Objectives	Program Learning Objectives					
	Communication Skills	Critical Thinking	Information Technology	Teamwork & Leadership	Global & Multicultural Issues	Integrate Business Areas
Be able to describe and explain the fundamentals of Supply Chain	X	X			X	X
Be able to make reasonable decisions for supply chain design and management problems using IT-enabled decision-support systems;		X	X	X		X
Gain knowledge on common supply chain practices	X	X	X		X	X
Understand the fundamentals of ERP systems applied to Supply Chain Management	X	X	X	X	X	X
Understand applications of data visualization, analytics, and in-memory computing technologies on Supply Chain Management			X		X	X

TEXTBOOK(S) AND MATERIALS FOR COURSE

- Required Textbook (Students **MUST** bring their textbook when attending class):
 - Operations and Supply Chain Management: The Core by Robert Jacobs, 5th edition, McGraw-Hill Education; (ISBN-10: 1260547620, ISBN-13: 978-1260547627).
 - ERP5310 Course Pack (ISBN: 281000027083B, only available at the Missouri S&T Bookstore, <https://www.thesandtstore.com/>)

GRADING POLICIES AND PROCEDURES:

Test 1	100 pts	Team Supply Chain Case Project	170 pts
Test 2	100 pts	• Two reports (120 pts)	
Final Exam	100 pts	• Team presentation (50 pts)	
Assignments, quizzes, class exercises, and chapter review question sets	510 pts	Discussion Board Participation	20 pts

Grading Scale:

A: \geq 895 pts B: 795 – 894 pts C: 695 – 794 pts D: 595 – 694 pts F: $<$ 594 pts

General Grading Policies:

1. **ALL ASSIGNMENTS AND TESTS ARE INDIVIDUAL WORKS UNLESS OTHERWISE SPECIFIED.**
2. Please make every effort to make it to class on time. It is disruptive to the class to have members arriving late.
3. The instructor will assign NO incompletes in lieu of a regular grade.

Exams, Tests, and Quizzes

1. There will be two tests and one final examination. **All exam materials may become the property of the instructor after completion.**
2. It is possible to have announced and pop quizzes throughout the semester. The student will be given the date of announced quizzes one week in advance.
3. Exam dates and quizzes are a part of the class schedule. Failure to appear for an exam/quiz will result in the assignment of a zero for that exam/quiz. If you are going to miss an exam for a legitimate reason (e.g., scheduled surgery, official University business, etc.), contact the instructor **PRIOR** to the administration of that exam/quiz. A make-up quiz/test may be allowed **during the final exam period** only if convincing reasons and proper documentation (such as a doctor's note in case of a surgery/illness) are given for the absence. The make-up exam will be a comprehensive exam covering the material from throughout the course.
4. All in-class quizzes and tests are closed books and closed notes unless otherwise specified.

Assignments

1. Assignments will mostly involve theories/concepts, mathematical computations, practical SAP ERP system operations, and other computer-intensive exercises.
2. All assignments are due at the beginning of the class on their due date. The grade will be reduced by 15% if the assignment is turned in within 24 hours later than its due time/date. The late penalty is incremented by 15% for every 24 hours late. No work will be accepted if submitted four days after the due date, including weekends. An exception will only be given to a student with a legitimate reason and he/she notifies the instructor five days before the due date.
3. If you are unable to attend a class, you need to (1) **submit your assignment file(s) via the Canvas submission link by the due date** and (2) ask a friend to submit a hard copy on your behalf at the beginning of the class on the due date.

Team Supply Chain Case Project

1. An integrated supply chain case team project will be assigned during the semester and account for 170 points of the final grade.
2. There are two case reports to analyze the case company's supply chain strategies over time and to recommend supply chain strategies utilizing analytics tools covered in the class.
3. The team will present findings and provide recommendations to improve the case company's supply chain competitiveness.

Discussion Board Participation

The sheer size of the concepts and complexity of ERP software limit the instructor from covering every aspect and screen that we will be using this semester. To help students better understand course materials, to develop debugging skills, and to learn from each other, the instructor has enabled a discussion board in the *Canvas Learning Management System*. **All technical support for assignments, exams, and projects are provided through the Discussion Board** and will NOT be answered through e-mail by the instructor.

- If you do not understand a concept or encounter a problem/error that you do not know how to resolve yourself, you will need to post your questions on the discussion board. You are also expected to answer questions asked by your peers. Occasionally, the instructor will also post questions and answers.
- Before post a question on the Discussion Board, it is the student's responsibility to check and ensure no same question has been posted previously.
- By the end of the semester, every student is expected to have asked and answered 10-15 questions. These discussions will account for 20 points of your grade. Straight forward questions (for example – how do I get to this transaction, where can I find this button, etc) will not count. Do not post questions just in the case of posting.
- The discussion board participation grade is computed based on the analysis of the following content categories during the semester:

Categories	Percentage
Original posts, reply posts, and follow up posts	45%
instructor endorsement	10%
Posts viewed	20%
Instructor posted topics/survey/poll participated/voted	25%
Total	100%

Class Attendance and Participation:

- Attendance is required. You are also responsible for finding out what was covered in class and what announcements were made as well as obtaining handouts.
- Overall, student participation and discussion are essential to ensure that the course topics are understood and are made relevant to actual business situations encountered in the workplace. As such, attendance and participation are essential factors in the learning process and a tool for assessing student learning. Therefore, you are required and expected to attend all classes.
- Each 10% of **unexcused absences will result in the loss of a letter grade**. For example, if your grade is a B and you have missed 10% of classes without legitimate excuses, you will end up with a C.
- The instructor reserves the right to drop a student if a student has missed more than 20% of class time.

GENERAL COURSE POLICIES:

Statement about Copyright, FERPA, and Use of Video

It is vitally important that our classroom environment promotes the respectful exchange of ideas. This entails being sensitive to the views and beliefs expressed during discussions whether in class or online. Please speak with me before recording any class activity. It is a violation of University of Missouri policy to distribute such recordings without my authorization and the permission of others who are recorded. More information is provided [online](#).

Accessibility and Accommodations

It is the university's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on a disability, please contact Student Disability Services at (573) 341-6655, sdsmst@mst.edu, visit <http://dss.mst.edu/> for information.

Student Honor Code and Academic Integrity

- The Honor Code all students are expected to follow can be found at this link: <http://stuco.mst.edu/honor-code/>.
- Page 30 of the Student Academic Regulations handbook describes the student standard of conduct relative to the University of Missouri System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism, and sabotage (<http://registrar.mst.edu/academicregs/index.html>), **all of which will be reported to the Vice Provost for Academic Support.**
- Additional guidance including the University's Academic Dishonesty Procedures is available at <http://academicsupport.mst.edu>.
- Other resources for students regarding ethics and integrity can be found at <http://academicsupport.mst.edu/academicintegrity/studentresources-ai>.

Well-Being and UCARE (<https://go.mst.edu/ucare-report>)

Any of us may experience strained relationships, increased anxiety, feeling down, alcohol/drug misuse, decreased motivation, challenges with housing and food insecurity, etc. When your mental well-being is negatively impacted, you may struggle academically and personally. If you feel overwhelmed or need support, please make use of S&T's confidential [mental health services](#) at no charge. For a quick guide to campus resources that address specific issues please visit our Well-Being Referral Guide, available as a website at <https://minerwellness.mst.edu/well-being-referral-guide/>. If you are concerned about a friend or would like to consult with a Care Manager, please make a UCARE referral for support and assistance. <https://stuaff.mst.edu/ucare/>.

Nondiscrimination, Equity, and Title IX

Missouri University of Science and Technology is committed to the safety and well-being of all members of its community, and to creating an environment free from discrimination and harassment.

The University does not discriminate on the basis of race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. As used in this policy, the word "sex" is also inclusive of the term "gender."

Additionally, US Federal Law Title IX states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any education program or activity. Violations of this law include sexual harassment, sexual assault, dating/domestic violence, and stalking.

In accordance with The Collected Rules and Regulations University of Missouri, Missouri S&T requires that all faculty and staff members report, to the Missouri S&T Equity Officer, any notice of discrimination disclosed through communication including but not limited to direct conversation, email, social media, classroom papers, and homework exercises.

The Missouri S&T's Equity Officer and Title IX Coordinator is Chief Diversity Officer Neil Outar. Contact him (naoutar@mst.edu; (573) 341-6038; 203 Centennial Hall) to report violations of the university's nondiscrimination policies, including Title IX. To learn more about resources and reporting options (confidential and non-confidential) available to Missouri S&T students, staff, and faculty, please visit <http://titleix.mst.edu>.

Classroom Egress Maps

For all in-person instruction, faculty should explain where the classroom emergency exits are located. Classroom egress maps are posted at <http://designconstruction.mst.edu/floorplan/>.

Lateness

Normally, the instructor will be in class on time. However, if the instructor is late by more than fifteen minutes, students should check with the Department of Business & Information Technology located in Fulton 101 whether the class will be canceled. Students are expected to be in class on time.

KEY DATES:

- The last day to add this course is Monday, September 6.
- The last day to withdraw from this course without a “WD” showing on the transcript is Monday, October 4
- The last day for dropping this course is Friday, November 12.

ERP 5310 Fall 2020 Course Schedule

Notation: TXT: Textbook CP: Course Pack

Week of	Topic	Readings & Notes	
		Textbook	Coursepack
Prior to the 1 st class	1. Complete course Preparation Tasks & Technology Requirement Testing		pp. 213 - 254
	2. Review Class Syllabus (Canvas → Syllabus)		
	3. Pre-Class Survey (Canvas → Assignments)		
	4. Purchase the textbook and course pack and read Ch. 1 and Ch. 2	Ch. 1, Ch. 2	
1 8/24	Introduction to ERP 5310 & Course Overview		pp. 3-10
	Ch. 1 Introduction: Operations and Supply Chain Management	Ch. 1	pp. 15-24
	Ch. 2 Strategy and Sustainability	Ch. 2	pp. 25- 29
	SAP ERP System Navigation and Operations		pp. 255-327
	Assignment: Lab 1 The Company's Supply Chain and SAP S/4HANA ERP System Navigation (CP: pp. 329-332, reference: CP: pp. 276-327) Ch. 1 & Ch. 2 review question set (Canvas → Modules → Chapter Review Question Sets)		
2 8/31	In-class Exercise: Visualize Supply Chain (PowerBI exercise)		
	Ch. 6 Manufacturing	Ch. 6	pp. 31-40
	Introduction to Integrated Manufacturing Process in Supply Chain Context		pp. 323-352
	Assignment: Lab 2: Manufacturing Order to Cash Process (Course pack: pp. 353-357, reference: pp. 323-352) Ch. 6 review question set (Canvas → Modules → Chapter Review Question Sets)		
3 9/7	Ch. 3 Forecast: Moving Average, Exponential Smoothing, and Trends & Seasonality	Ch. 3	pp. 41-61
	Assignment: Lab 3: Demand Forecasting using Excel (Course pack: p. 358) Ch. 3 review question (Canvas → Modules → Chapter Review Question Sets)		
4 9/14	Ch. 3 Forecast –Time Series Analysis, Linear Regression	Ch. 3	pp. 41-61
	Exercise: Forecast in ERP system		pp. 61-76
	Assignment: Lab 4: Demand Forecast in Sales and Operations Planning (SOP) using SAP S/4HANA ERP System (Course pack: pp. 359-364)		
5 9/21	Supply Chain Analytics: Data Mining, and Augmented Analytics (SAS Viya: Model Studio, Visual Analytics & Visual Statistics)		pp. 64-67
	Assignment: Lab 5 Forecast applications and modeling using SAS Model Studio and Viya (course pack: pp. 377-399 and in-class exercise instructions; chart type references: pp. 366-375)		
6 9/28	Exercises: Supply Chain Analytics (SAS Viya; Microsoft PowerBI)		
	Supply Chain Team Case Case Facts Quiz (Canvas → Assignments → Upcoming Assignments)		pp. 511-568
	Test 1 <ul style="list-style-type: none"> The concept test is due at 11:59 pm, Tuesday, September 28 Take-Home Computer Operation test is due at 4 pm, October 5 		
7 10/5	Ch. 4 Strategic Capacity Management	Ch. 4	pp. 77-88
	Exercises: Capacity Management in ERP Environment (S/4HANA ERP)		
	Exercises: Supply Chain Analytics: Decision Tree Application (SAS Viya; Excel Pivot Table, Microsoft PowerBI)		
	Assignments <ul style="list-style-type: none"> Ch. 4 review question (Canvas → Modules → Chapter Review Question Sets) Team Project Report 1 (Assigned team Google Doc) 		

Week of	Topic	Readings & Notes	
		Coursepack	Coursepack
8 10/12	Ch. 8 Sales and Operations Planning (SOP)	Ch. 8	pp. 89-104
	Exercises: SOP Application in ERP Environment (S/4HANA ERP)		
	Assignments: <ul style="list-style-type: none"> Ch. 8 review question set (Canvas→ Modules→ Chapter Review Question Sets) Lab 6 Preparation and Case 1 (course pack: pp. 401-413) 		
9 10/19	Ch. 9 Material Requirement Planning (MRP)	Ch. 9	pp. 105-128
	Exercise: MRP Application in ERP Environment (S/4HANA ERP)		pp. 129-134
	Assignments: <ul style="list-style-type: none"> Ch. 9 review question set (Canvas→ Modules→ Chapter Review Question Sets) Lab 6 Case 2, Case 3, and Report (course pack: pp. 413 – 417) 		
10 10/26	Ch. 11 Inventory Management	Ch. 11	pp. 135-158
	Exercise: Inventory Management Application in SAP S/4HANA ERP		pp. 159-164
	Assignment: <ul style="list-style-type: none"> Ch. 11 review question set (Canvas→ Modules→ Chapter Review Question Sets) Team Project Report 2 (Team Google Doc) 		
11 11/2	Warehouse Management in SAP S/4HANA ERP System		pp. 419-445
	Exercises: Supply Chain Analytics Application in Inventory Management		
	Test 2: <ul style="list-style-type: none"> The concept test is due at 11:59 pm on 11-2 Computer operation test is due at 4 pm on 11-9 		
12 11/9	Ch. 13 Global Sourcing and Procurement	Ch. 13	pp. 165-170
	Exercises: Supply Chain Analytics Application in Sourcing and Procurement		
	Assignment: <ul style="list-style-type: none"> Ch. 13 review question set (Canvas→ Modules→ Chapter Review Question Sets) Lab 7: Warehouse Management Part 1 – Procurement (using SAP S/4HANA system) (course pack: pp. 447-459) 		
13 11/16	Ch. 14 Location, Logistics, and Distribution	Ch. 14	pp. 171-181
	Assignments: Ch. 14 review question set (Canvas→ Modules→ Chapter Review Question Sets) Lab 8: Warehouse Management Part 2 – Procurement (course pack: pp. 460-474) Lab 9: Warehouse Management Part 3 – Procurement (course pack: pp. 475-488)		
14 11/23	Thanksgiving Holiday (no class)		
15 11/30	Ch. 5 Projects		pp. 182-203
	Exercises: Project Systems in ERP Environment (S/4HANA ERP)		pp. 204-206
	Assignment: Team Case Competition Presentation (Team Google Slide) Ch. 5 review question set (Canvas→ Modules→ Chapter Review Question Sets)		
16 12/7	Team Case Presentation		
	Course Review		
	Final Exam Take Home Computer Operation is due at 4 pm on Thursday, December 16 (Lab 10 Project Systems (course pack: pp. 503-535) is a part of the computer operation test)		
17 12/14	Final Exam: The concept test is due at 11:59 pm on Tuesday, December 14		

Note: * it is possible, due to extenuating circumstances that exact coverage and sequencing of course content, grading criteria, and weights may change. Students will be notified as far in advance of such changes.