Inventory and Supply Chain Systems
EIN4343   Section 8232
Fall 2020
M | Period 3 - 4 (9:35 AM - 11:30 AM); W | Period 4 (10:40 AM - 11:30 AM); Online

Instructor
Dr. Mengyu Li
Email: mengyu.li@ufl.edu (Please contact through the Canvas website)
Phone: 352-294-6391
Office Hours (Virtual): Thursdays, 4:00pm – 6:00pm or by appointment.

Teaching Assistant
Shuai Hao
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Office hours (Virtual): Tuesdays, 2:00pm – 4:00pm.

Grader
Juan Beltrán
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Course Description
Deterministic and stochastic inventory models for single- and multiple-item systems. Analysis and design of logistics systems. Supply chain management and coordination. Demand forecasting.

Course Pre-Requisites / Co-Requisites
ESI3312 (Operations Research 1) and ESI4313 (Operations Research 2) with minimum grades of C.

Course Objectives
This course develops student's analytic abilities to formulate and solve inventory, logistics and supply chain problems faced by today's firms. Students learn to take a comprehensive view of complex inventory and supply chain systems. Additionally, the students develop abilities to model, optimize, and design such systems.

Materials and Supply Fees
N/A

Professional Component (ABET)
This course contributes to the following PEOs:
1. Can become successful professionals in industrial and systems engineering or other disciplines
2. Can acquire advanced knowledge through continuing education or advanced degree programs

Relation to Program Outcomes (ABET)

Outcome	Coverage*
1. An ability to identify, formulate, and solve engineering problems by applying principles of engineering, science, and mathematics.	High
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	Medium
3. An ability to communicate effectively with a range of audiences.	
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	Low
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	

6.	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions		Low
7.	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.		Medium

*Coverage is given as high, medium, or low. An empty box indicates that this outcome is not covered or assessed in the course.

Required Textbooks and Software
- Textbooks
  - N/A
- Lecture Notes
  - Available at Canvas course site
- Supplemental Reading
  - Throughout the semester a number of articles from contemporary business literature will be posted on the course website that you will be asked to read for follow-up class discussions.

Recommended Materials
N/A

Course Schedule
This is a *tentative* outline. The instructor reserves the right to make changes as she sees necessary.

Week	Date	Topic	Activity
1	31-Aug	Motivation & Syllabus & Inventory Management Introduction	
	2-Sep	ABC Analysis	
2	7-Sep	**Holiday - No class**	Honorlock Quiz
	9-Sep	Economic Order Quantity (EOQ) Model	
3	14-Sep	EOQ Extensions I & II	
	16-Sep	EOQ Extensions III	Quiz 1
4	21-Sep	EOQ Extensions III & Tutorial 1	
	23-Sep	LSP Model (Exact)	Quiz 2
5	28-Sep	LSP Model (Exact & Heuristics)	Price Research
	30-Sep	Tutorial 2	
6	5-Oct	Newsvendor Model (Single)	
	7-Oct	Review - Term Exam 1	Quiz 3
7	12-Oct	Newsvendor Model (Multi)	**W07 Term Exam 1**
	14-Oct	Tutorial 3	
8	19-Oct	(q,r) Policy Model (DDLT & Backlogging)	
	21-Oct	(q,r) Policy Model (Lost Sale)	
9	26-Oct	Term Exam 1 Review & (q,r) Policy Service Level	
	28-Oct	Tutorial 4	Quiz 4
10	2-Nov	Transportation Preliminaries, Shipment Mode & Size Selection, and Network Design	
	4-Nov	Tutorial 4 (cont.)	
11	9-Nov	Logistics Decisions & Consolidations	Quiz 5
	11-Nov	**Holiday - No class**	
12	16-Nov	Review - Term Exam 2 & Supply Chain Introduction	
	18-Nov	Tutorial 5	**W12 Term Exam 2**
13	23-Nov	The Bullwhip Effect	Wood Supply Game
	25-Nov	**Holiday - No class**	

14	30-Nov	Demand Forecasting	
	2-Dec	Demand Forecasting: Seasonal Series	
15	7-Dec	Demand Forecasting: Seasonal Series (Cont.)	
	9-Dec	Tutorial 6	Quiz 6
	TBD	**Final Exam**	

Attendance Policy, Class Expectations, and Make-Up Policy

Throughout the semester, following policies will be followed:

- **Class.** Students will be provided with detailed lecture notes. Attendance is not required. However, make sure you attend the classes when the quizzes/term exams are given (see detailed Course Schedule). Our class sessions may be audio visually recorded for students in the class. Any live video sessions will be recorded for enrolled students to refer back and for those who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited. *Persistent disruptive behavior will not be tolerated and might result in grade deductions (half a letter grade).*

- **Exam Policy.** To assess student learning, students will be given six Quizzes (see detailed Course Schedule), two Term Exams (see detailed Course Schedule) and a comprehensive Final Exam. All exams & quizzes are delivered via Online Proctor Program: Honorlock. Formula sheets that can be used during the exams will be provided by the instructor. These formula sheets will be posted on the course website in advance. Prior to each exam a study guide will also be provided by the instructor that lists the topics that will be covered in the exam. The exams are scheduled in advance, please plan accordingly. Make-up tests will be given for unanticipated absences ONLY (e.g., illness/death in family with appropriate documentation, but NOT for job interviews). Exam Policy is non-negotiable.
  Excused absences must be consistent with university policies in the undergraduate catalog (https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx) and require appropriate documentation.

- **Regrade Requests.** Requests for regrading of exams will be considered only with a written explanation and only within a one-week period from the time graded work is returned in class. Specifically, you need to prepare a typed up or legibly written memo explaining why you believe your work needs to be regraded, attach it to the cover sheet of the exam booklet, and return it to the instructor or the TA. Grades will be posted on the course page on Canvas. Throughout the semester, you have to ensure that your grades are entered correctly. Corrections will be considered only within a one-week period after the grades have been posted on Canvas.

- **Announcements and Course Materials.** You are responsible for all announcements made in class as well as some additional material that might be covered. You are responsible for printing the lecture notes posted on Canvas. Paper copies of the lecture notes will not be distributed in class.

- **Assignments:** Late submission penalty of 25% per day (4 days maximum allowance) will be applied to late submissions.
  - **Price Comparison.** You will be asked to choose a product and create a table that depicts the price of the product for at least five on-line stores (minimum required Amazon.com, Walmart.com, Target.com). More information will be provided via Canvas.
  - **Wood Supply Game.** You will be assigned to complete this Wood Supply Game in groups and then submit your assignment individually. More information about the submission guidelines will be provided via Canvas.

Evaluation of Grades
Your final grade for the class will be calculated as shown in the table below:

Quizzes (5 out of 6)	20%
Price Research	5%
Wood Supply Game	5%
Term Exam 1	20%
Term Exam 2	20%
Final Exam	30%

Grading Policy
Final grade averages will be rounded off to the nearest integer, and assigned on the standard scale as follows:

Percent	Grade	Grade Points
93 - 100	A	4.00
90.0 – 92.9	A-	3.67
86 - 89.9	B+	3.33
83 – 85.9	B	3.00
80.0 – 82.9	B-	2.67
76 - 79.9	C+	2.33
73 – 75.9	C	2.00
70.0 – 72.9	C-	1.67
67 - 69.9	D+	1.33
63 – 66.9	D	1.00
60.0 – 62.9	D-	0.67
0 - 59.9	E	0.00

More information on UF grading policy may be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Students Requiring Accommodations
Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, https://www.dso.ufl.edu/drc) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluation
Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

University Honesty Policy
UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or the TA in this class. *All cases will be handed over to the Dean of Students.*

Commitment to a Safe and Inclusive Learning Environment
The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:
• Your academic advisor or Graduate Program Coordinator
• Robin Bielling, Director of Human Resources, 352-392-0903, rbielling@eng.ufl.edu
• Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, taylor@eng.ufl.edu
• Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, nishida@eng.ufl.edu

Software Use
All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy
There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: https://registrar.ufl.edu/ferpa.html

Campus Resources:
Health and Wellness

U Matter, We Care:
Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Discrimination, Harassment, Assault, or Violence
If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, title-ix@ufl.edu

Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. https://lss.at.ufl.edu/help.shtml.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling. https://www.crc.ufl.edu/.

Library Support, http://cms.uflib.ufl.edu/ask. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. https://teachingcenter.ufl.edu/.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. https://writing.ufl.edu/writing-studio/.

Student Complaints Campus*: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

On-Line Students Complaints*: http://www.distance.ufl.edu/student-complaint-process.