ISYE 6335 Syllabus

Supply Chain Engineering I: Warehousing and Distribution Science

3.00 Credits | Fall 2026

Instructor Information

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General Course Information

Description

ISYE 6335 is one of the courses in the master's degree program in Supply Chain Engineering at the H. Milton Stewart School of Industrial and Systems Engineering at the Georgia Institute of Technology. The course covers fundamental concepts and issues involved in the design and operations of warehouses and distribution centers. More specifically, the course aims to equip you with the skill to use analytical models and warehouse organizing principles to solve industry problems. There will be occasional visits to the class by speakers from industry, and you will work on a real-world project.

Course Learning Outcomes

Upon successful completion of this course, you should be able to:

- Describe the role of the warehouse in the supply chain and apply key warehousing terminology and concepts.
- Analyze and profile warehouse activity to understand flow, space, and time relationships.
- Apply layout and slotting principles to design unit-load and piece-picking warehouses.
- Evaluate order-picking strategies, including carton picking, piece picking, order batching, and bucket brigades.
- Use analytical models to address real-world warehouse design and operations challenges.
- Communicate findings and design proposals effectively in written and oral form.

Required Course Materials

Warehouse & Distribution Science, Release 0.98.1, by Bartholdi and Hackman, Revised August 2019. Available free at: https://www.warehouse-science.com/book/editions/wh-sci-0.98.1.pdf.

Additional articles and papers will be provided throughout the semester as references and supplementary resources. All materials will be posted on Canvas.

Course Requirements & Grading

Grading Policy

Your final grade will be assigned as a letter grade according to the table below.

Grade	Scale
A	90 or higher
B	80–89%
C	70–79%
D	60–69%
F	Below 60%

Your final grade is determined by the weighted components below. For more information about Georgia Tech's grading system, see the Registrar's grading information.

Assignment	Weight
Homework	20%
Quiz 1	15%
Quiz 2	15%
Quiz 3 (highest)	20%
Project	30%

Note: Among the three quizzes, Quiz 3 counts 20% and the other two each count 15%. For students on the cusp of the next higher grade, a small amount of extra credit may be awarded for insightful class participation, exceptional homework, or extraordinary project performance.

Description of Graded Components

Attendance and Participation

Attendance is expected unless you have an excused absence (e.g., illness). If you must miss a class, notify the instructor and TA in advance. Excused absences will not negatively impact your grade; unexcused absences or repeated late arrivals will. While there is no separate participation grade, quality participation may contribute extra credit for students on grade boundaries. Quality contributions include offering unique and relevant perspectives, advancing the discussion, and building on others' comments.

Homework

Homework will be assigned approximately every other week and is due one week after assignment. The Teaching Assistant can provide hints on homework problems but will not provide answers. Late submissions will receive a penalty ranging from 20% to 100% depending on lateness. Regrade requests must be submitted within one week of a grade decision.

Quizzes

There will be three in-person quizzes, each lasting 50 minutes. You may bring one 3-inch by 5-inch index card (both sides) to each quiz. All assigned readings, class discussions, guest lectures, and project presentations are testable material. All quizzes are cumulative, with emphasis on the most recent material.

There are no make-up quizzes. If you miss a quiz with a GT-approved excuse, your other quiz scores will be averaged to compensate. Without an approved excuse, a missed quiz receives a zero. When the quiz is declared over, stop writing immediately and turn in your paper.

Regrade requests: Submit a written summary of what and why you need regraded, attached to the original quiz, within one week of the return date. Requests after the deadline will not be considered.

Incomplete Grade: An 'I' will be granted only if a passing grade has been maintained, most coursework is completed, and there is a documented family or medical emergency through the Dean of Students.

Project

You will work in teams of 3-5 students on a real-world warehousing design project. Teams will be formed early in the semester, and project details will be discussed in class. There will be three project phases with milestones. Each team submits one report and delivers one final presentation.

Course Policies

Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review Georgia Tech's Honor Code and the Student Code of Conduct.

Any student suspected of cheating or plagiarism on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Specific Honor Code expectations in this course:

- You may form study groups to prepare before deadlines, quizzes, or class discussions.
- All quiz work must be done individually. You may not discuss or exchange quiz questions or answers with others inside or outside the class.
- Changing your answer on a graded quiz is a violation of the Honor Code.
- During quizzes, cell phones must be turned off. You may not copy, share answers, use unauthorized materials, or use unacceptable electronic equipment.

- Any cheating, large or small, will result in an 'F' on the assignment/quiz/project and referral to the Dean of Student Affairs.

If you are unsure whether an activity is permissible under the Honor Code, consult the instructor before undertaking it.

Core IMPACTS

Core IMPACTS is the University System of Georgia's General Education curriculum. ISYE 6335 is a graduate-level course in the Supply Chain Engineering master's program and does not currently count toward Core IMPACTS general education requirements.

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services (404-894-2563) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Additional Course Policies

Collaboration, Group Work, and Use of Generative AI

For quizzes and individual assignments, each student is expected to submit their own work. No copying from other students, the internet, or any other source is permitted. For the project, students work in small groups and each group submits one report and one presentation.

Any assistance on homework, a quiz, or a project from any source other than yourself must be referenced in your submission. If you have questions about the collaboration policy, ask the instructor before submitting.

Extensions, Late Assignments, and Missed Quizzes

Late homework submissions will receive a penalty ranging from 20% to 100% deduction depending on lateness. There are no make-up quizzes except for GT-approved excuses (see Quizzes section above). Regrade requests must be submitted within one week of a grade decision.

Communication and Course Tools

Canvas and Piazza are the mandatory communication tools in this class. All course materials are posted there. Students are responsible for all announcements, schedule changes, and updates posted on Canvas, Piazza, or sent via email.

Make sure you have a working internet connection and camera available for any class session you attend virtually. If you encounter consistent connectivity issues, email the instructor.

Illness and Transmissible Disease

Do not attend class in person if you think you are sick with any transmissible disease, or if you are experiencing symptoms. Email the instructor and TA in advance.

Tentative Course Schedule

Note: The instructor reserves the right to modify schedule and topic sequence during the semester. Changes will be announced on Canvas.

Wk	Class	Topic	Project Milestone	HW
1	1	Course, instructor & student intro; Role of warehouse in supply chain		
1	2	Warehousing basics and terminology		
2	3	Flow, Space, Time		
2	4	Warehouse activity profiling		HW 1 assigned
3	—	Labor Day – No Class (GT Calendar)		
3	5	Warehouse activity profiling	Teams formed; leaders appointed	HW 1 Due
4	6	Layout and Slotting of a Unit-Load Warehouse	Projects kicked off	
4	7	Layout and Slotting of a Unit-Load Warehouse	Preliminary project definition; data exploration	HW 2 assigned
5	8	Carton-Picking from Pallets	Prepare data summaries	
5	9	Project Work – Phase 1		HW 2 Due
6	10	Carton-Picking from Pallets	Phase 1 of project done	
6	11	Review Session		
7	12	Quiz 1	Refinement of project goals; task assignment within group	
7	13	Piece-Picking from Cases		
8	14	Piece-Picking from Cases		HW 3 assigned
8	15	Piece-Picking from Cases		
9	16	Fall Break – GT Holiday		HW 3 Due

Wk	Class	Topic	Project Milestone	HW
9	17	Asynchronous class – work on project progress presentations		
10	18	Order Picking		
10	19	Order Picking		
11	20	Project Progress Presentations	Phase 2 done: 5-min team update to instructor	
11	21	Project Progress Presentations		
12	22	Bucket Brigades	Final data analyses/simulations	HW 4 assigned
12	23	Quiz 2 (cumulative to date)		
13	24	Presentation Workshop – Dr. Brandy Blake, Director of Technical & Professional Communication, ISyE		HW 4 Due
13	25	Order Picking + Bucket Brigades		
14	26	Automation		HW 5 assigned
14	27	Automation		
15	28	Project Final Presentations	Phase 3 done: 9-min design proposal presentation	HW 5 Due
—	—	Thanksgiving Break – No Class (GT Calendar)		
16	29	Quiz 3 (cumulative to date)	Submit project reports (slides format; see Canvas)	