

ISYE 4301 Supply Chain Economics

Course Prefix and Number: ISYE 4301

Credit Hours: 3

Instructor: TBA

CRN: 92614

Course Description:

The supply chain starts from raw materials in nature and ends at consumption as products or services through a complex network of collaborative and competitive production and service providers. In the circular economy, the reverse chain starts from the end of consumption. It involves reuse, repurpose, recycle, or landfills. This course is about the strategies for firms to collaborate with their partners and compete in their markets using models in supply chain and economics. It involves qualitative discussions and quantitative models on incentives, pricing, supply quantity planning, differentiation, games, information, scale, share, and speed. The unique feature of this course is it considers human centered design and sustainability as a major objective in Industry 5.0.

Course Learning Outcomes:

At the end of this course, students will be able to:

1. Understand the supply chain, and economic forces in the circular economy and UN SDGs.
2. Understand information asymmetry, principal-agent model in collaboration.
3. Apply game theory-based models in competitions.
4. Quantify the economic forces in the supply chain, such as scale, scope, sharing, uniformity, and speed.
5. Develop plausible solutions and present results in team projects.
6. Consider ethical and professional responsibilities and Environmental, Societal and Governance.

Required Course Materials:

Chen Zhou, "Supply Chain with Economics and Human Needs," Barnes & Noble, May 2022. You can also get the PDF version for free at Chen Zhou's website: <https://sites.gatech.edu/chen-zhou/>.

Prerequisite(s):

ISyE 3133, ISyE

Grading Policy

TBA

Attendance Policy

TBA

Academic and Research Honesty/Integrity Statement

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 the [Student Code of Conduct](#) and the [Academic Honor Code](#), especially [Appendix A: Graduate Addendum to the Academic Honor Code](#).

Students are expected to perform research in an ethical and responsible manner. All Doctoral and Master's Thesis students are required to take the [Responsible Conduct of Research training](#), and it is expected that students abide by the principles taught in that training while performing research.

Any student suspected of cheating or plagiarizing 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.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the [Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct](#).

Core IMPACTS

TBA

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) 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

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](#) articulates some basic expectations that you can have of me and that I have of you. Additional information for research-related work is given in [The](#)

[Expectations of Advisors and Advisees](#). 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.