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**Supply Chain Inventory Management**

Fall 2018

Classroom: 1WP 202

Meeting Times: Wednesday 1:00 PM – 3:50 PM

Class Website: Blackboard

**Lian Qi**

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Office Hours: 30 minutes before the class, any time after the class, or by appointment

**COURSE DESCRIPTION**

Inventory management is the cornerstone of supply chain management. The goal of this course is three-fold: (1) identify problems and challenges in inventory management, (2) introduce the main stream literature that mathematically models and solves these problems, (3) bring students to the frontier of this active research area. The course is targeted at graduate (M.S. or Ph.D.) students in the areas of operations management, operations research, industrial engineering and management science. To prepare students to do research and to train students for the job market, this course combines lectures, literature reading and seminars.

**COURSE MATERIALS**

*Foundations of Inventory Management*, 1st edition. By Paul H. Zipkin. 2000. McGraw-Hill/Irwin. ISBN-10: 0256113793 (Optional).

**COURSE ACTIVITIES AND ASSIGNMENTS**

- **Presentations:** Each student will read several research papers and present two papers as if you were the author. Some of the papers are selected by me while others are picked by you (it could be your own research paper) with my permission. In the presentation, you need to highlight the motivation and the potential social and/or economic impact, explain the research problem, the models, and the solution to the problem. You also need to compare to existing results and point out the contribution. The time limit for a presentation is 1 hour (including Q&A, prepare it as if it is your job talk!).
- **Discussants:** Besides presenters, each paper will have a discussant. The main task of a discussant is to provide a critique of the papers presented: the significance of the problem, the suitability of the model, the limitations of modeling assumptions and the role that those assumptions play in obtaining results, the significance of the results, and possible extensions. In addition, discussant should look for common themes or key issues that link the papers and enhance our understanding of the topic. Lastly, discussant is expected to

raise challenging questions that would guide class discussion. The discussants will prepare a referee report to the paper presented.

- **Referee Report:** Papers submitted to refereed journal typically goes through a peer-review process, during which an associated editor (AE) assigns the paper to (at least) two referees. The referees will read the paper and provide suggestions to AE on either accepting or revising or rejecting the paper. A good referee provides constructive suggestions that allow the author to improve the paper. When you serve as a referee, remember one thing: it is too easy to criticize a paper; ask yourself two questions: what did I learn from this paper? How can I help the author(s) to improve the paper?

- Judging Criteria on Papers

Potentially significant economical and/or social impact – A research that matters!

Insights and solutions are effective but not common sense – it is sophisticated.

New challenges, ideas and approaches – it is novel.

- **Exam.** One in-class close-book close-note exam will be arranged. Each student can bring one double-sided note sheet to the exam.

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## ACADEMIC INTEGRITY

I do NOT tolerate cheating. Students are responsible for understanding the RU Academic Integrity Policy ([https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI\\_Policy\\_2013.pdf](https://slwordpress.rutgers.edu/academicintegrity/wp-content/uploads/sites/41/2014/11/AI_Policy_2013.pdf))

I will strongly enforce this Policy and pursue all violations. On all examinations and assignments, students must sign the RU Honor Pledge, which states, “On my honor, I have neither received nor given any unauthorized assistance on this examination or assignment.” Don’t let cheating destroy your hard-earned opportunity to learn. See [business.rutgers.edu/ai](http://business.rutgers.edu/ai) for more details.

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## GRADING

Presentation	30%
Referee	10%
Discussant	10%
Exam	50%

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## SUPPORT SERVICES

If you need accommodation for a *disability*, obtain a Letter of Accommodation from the Office of Disability Services. The Office of Disability Services at Rutgers, The State University of New Jersey, provides student-centered and student-inclusive programming in compliance with the

Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments of 2008, Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act of 1998, and the New Jersey Law Against Discrimination. <https://ods.rutgers.edu>

If you are a military *veteran* or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>

If you are in need of *mental health* services, please use our readily available services.  
Rutgers University-Newark Counseling Center: <http://counseling.newark.rutgers.edu/>  
Rutgers Counseling and Psychological Services – New Brunswick: <http://rhscaps.rutgers.edu/>

If you are in need of *physical health* services, please use our readily available services.  
Rutgers Health Services – Newark: <http://health.newark.rutgers.edu/>  
Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>

If you are in need of *legal* services, please use our readily available services:  
<http://rusls.rutgers.edu/>

If you are in need of additional *academic assistance*, please use our readily available services.  
Rutgers University-Newark Learning Center: <http://www.ncas.rutgers.edu/rlc>  
Rutgers University-Newark Writing Center: <http://www.ncas.rutgers.edu/writingcenter>  
Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>

## COURSE SCHEDULE

Date	Topic
9/5	Introduction
9/12	One Item with a Constant Demand Rate
9/19	Time-Varying Demands
9/26	Several Products and Locations
10/3	Stochastic Demand: One Item with Constant Lead-times
10/10	Stochastic Lead-times: The Structure of the Supply System
10/17	Several Items with Stochastic Demands
10/24	Time-Varying, Stochastic Demand: Policy Optimization
10/31	Exam
11/7	Seminar 1
11/14	Seminar 2
<b>11/21</b>	<b>No Class (Thanksgiving week: Friday class)</b>
11/28	Seminar 3
12/5	Seminar 4
12/12	Seminar 5