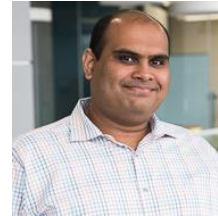Course: Supply Chain Analytics
Term: Fall 2023

Professor: Karti Puranam
E-mail : karti@rutgers.edu
Office: BSB255
Office Phone: (856) 225-6633
Office Hours: By appointment

Course Type: This course will be delivered online. Most of the instruction will be done asynchronously.

Course Description: This course illustrates how the field of data analytics can be applied to optimally manage supply chains. Students learn to apply data driven decision making methodology to the field of Supply Chain management. Topics will encompass all portions of a supply chain including sourcing, procuring, buying, making, moving and selling. Topics will include designing and planning supply chains, transportation analysis, facility and warehouse location models, demand management, aggregate planning and sales planning.

Learning Goals/Objectives
1. Identify the basic foundations of Supply Chain Management
2. Analyze supply chain performance metrics (financial and operational)
3. Analyze design specifications of supply chains
4. Analyze transportation, transshipment, facility and warehouse location problems and solve them using optimization techniques
5. Implement simple and advanced time series methodology to forecast demand and evaluate the result.
6. Evaluate inventory planning policies
7. Evaluate supply chain planning strategies.

Required Course Materials
TEXTBOOK: Supply Chain Management: Strategy, Planning, and Operation, 7th Edition by Chopra and Meindl. (You can use the 6th edition instead of the 7th.)

GRADING
The assignment of final grades, the course requirements will be weighted approximately as follows:

Homework (2)	15%
Podcast Episodes	20%
Discussions and Participation	20%
Midterm Exam	20%
Final Exam	25%

Grade Ranges (faculty suggestion)
Letter Grade Description
A Highest grade (90% and above)
B+ Work of distinction (85% to 89%)
B Work of distinction (80% to 84%)
C+ Average work (75% to 79%)
C Average work (70% to 74%)
D Passing, but unsatisfactory (60% to 69%)
F Failure without credit (Below 60%)

Prerequisites: 50:960:183 ELEMENTARY APPLIED STATISTICS (R) OR 50:960:283
INTRODUCTION TO STATISTICS I

Exams: All **tests(midterms/finals)** will be conducted online. You will be able to use computer software to answer the questions. The materials you can refer to will be explicitly specified before each exam.

Exam Make-Up Policy: Since you will be given a very reasonable amount of time to work on the exams, make-ups are **not** given. If, you cannot take an exam by the scheduled deadline for a university-approved reason, you must give the professor written notice at least one week in advance so that other arrangements can be made. If the situation does not allow for advance notification (for example, emergency hospitalization), contact the professor as soon as possible after a missed exam. Any student who missed the exam without prior approval of the instructor or a compelling reason will receive a zero grade for that exam. The professor reserves the right to request written documentation to support your absence (such as a doctor's note or military orders).

Group Podcast Project: You will all be assigned to groups of 3 or 4. Once assigned the groups are not subject to change. You will have to get together either in person or online to create these podcasts. You will be submitting four recordings through the semester. (Schedule of classes has the due dates). These are:

1. **Project charter:** You will create a group charter. You will decide together what you expect from each other for this group project. This will include: i) how often you will communicate with each other; ii) how you will communicate with each other whether via email, texts etc.; iii) How quickly do you expect your teammates to reply; iv) How you will handle someone who is not contributing to the project; v) Anything else you feel is pertinent for the project.
2. **Midterm podcast assignment:** You will discuss the case "Demise of blockbuster" from chapter 2 in the textbook. You will create a 15 to 20-minute podcast on this topic. More details will be available in the prompt on canvas.
3. **Final podcast episode:** For the Final Group Project, you will create a 20-minute podcast on a Supply Chain Analytics topic of your choice. Using the skills and experience you gained through the Mid-Term Group Project, you will work with your group members to create your own episode that showcases what you've learned this semester by applying it to a current business issue.
4. **Podcast Discussion:** Starting Oct-30th two groups per week will post their final podcast episode. The schedule to post the podcast episode is in the tentative schedule of classes given below. Once the episodes are posted, all remaining students will discuss the podcast topic on the discussion boards. Half the class will discuss one group's episode and the other half will discuss the second group's episode.

Tentative Schedule of classes

Dates	Topic	Chapter/Reading	Comments
05-Sep to 11-Sep	Introduction to Supply Chain Management	Chapters 1 and 2	Discussion: Introduce yourself and talk about what you expect from this class.
12-Sep to 18-Sep	Productivity and Financial Metrics	Chapter 3	Discussion: Zara's Supply Chain and Groups will be announced (09/15)
19-Sep to 25-Sep	Basic Network Problems	Handouts and PowerPoints	Homework 1 will go up and Group Project Charter due (09/25)
26-Sep to 02-Oct	Capacitated Facility Location	Chapter 5	Discussion: Global Production Facilities
03-Oct to 09-Oct	Capacitated Facility Location	Chapter 5	Midterm Podcast assignment due (10/09)
10-Oct to 16-Oct	Gravity Location Model and Midterm Review	Chapter 5	Homework 1 is due on Monday (10/16)
17-Oct to 23-Oct	Midterm on Friday (10/20)	Everything covered prior to the midterm	Midterm

Dates	Topic	Chapter/Reading	Comments
24-Oct to 30-Oct	Aggregate planning, Sales and Operations planning	Chapters 8 and 9	Homework 2 will go up
31-Oct to 06-Nov	Aggregate planning, Sales and Operations planning	Chapters 8 and 9	Groups 1 and 2 Podcast episode discussion
07-Nov to 13-Nov	Aggregate planning, Sales and Operations planning	Chapters 8 and 9	Groups 3 and 4 Podcast episode discussion
14-Nov to 20-Nov	Seasonal Inventory Management	Chapter 13	Groups 5 and 6 Podcast episode discussion
21-Nov to 27-Nov	Thanksgiving		BREAK!
28-Nov to 04-Dec	Seasonal Inventory Management	Chapter 13	Groups 7 and 8 Podcast episode discussion
05-Dec to 11-Dec	Sharing Risk and Reward in Supply Chain	Chapter 15	Homework 2 is due on Monday (12/04)
12-Dec to 14-Dec	Final Exam Review		Final exam is comprehensive

Class Materials:
All class materials can be obtained via Canvas. Note that the PowerPoint class materials for a particular week will be posted by 10 AM on Tuesday (except for the first week or two.) You are strongly encouraged to access this course via Canvas several times a week. You can imagine that the class seamlessly "runs" through from day 1 (Tuesday) to day 7 (Monday).

Expected work schedule every week:

Tuesday	Read chapter/ Watch Video
Wednesday	Read chapter/ Watch Video
Thursday	Read chapter/ Watch Video. Attend Synchronous session (7 PM to 8 PM)
Friday	Post on discussion board (if required).
Saturday	Work on case or problem set assignment/ Read and respond to comments by others
Sunday	Work on case or problem set assignment/ Read and respond to comments by others
Monday	Work on case or problem set assignment/ Read and respond to comments by others

Professor Communication:
Note that during the week, from Monday until Friday, I will try reply to all e-mails within 24 hours. Please do not expect immediate response. (If you do not hear from me within 48 hours, please re-send your email as I may have overlooked or accidentally deleted your e-mail.)

Although, I check my e-mails a few times daily, I may not be able to completely answer all e-mails immediately upon receiving them. Note that I may also be travelling out of town on many weekends and may not be able respond to weekend e-mails until Monday.

How to succeed in this course
The material presented in class provides the essential backbone of the course. You are expected to:
- Read all text material assigned for each class
- Follow instructions in all assignments
- Start assignments early and get feedback from the instructor
- Consult/meet with the professor immediately when you need help.
- If an online tool is used (Canvas) ensure that you can access and use it appropriately.
- Participate in the assigned class discussions, whenever you can, to get maximum credit for class participation. These discussions are designed to be a collaborative learning experience for all involved.

- For the general class discussion forum, you are also strongly encouraged to share any relevant class related topics pertaining to current business environment. You may also benefit and assist other students via thoughtful interaction.
- **Direct Interaction:** Although Canvas provides good learning tools, oftentimes, a direct one-to-one professional interaction to resolve difficult issues is usually the most effective. For example, you may have a certain technical/mathematical problem that is frustratingly difficult to solve that you think is difficult be resolved in an open forum or elsewhere. In this case, please feel free to send me an e-mail and a contact number so that I can call you directly to resolve it.

Diversity Statement:

This class strives to be an inclusive community, learning from the many perspectives that come from having differing backgrounds and beliefs. As a community, we aim to be respectful to all. We reject all forms of prejudice and discrimination, including but not limited to those based on age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, and veteran status. Faculty and students are expected to commit to creating an environment that facilitates inquiry and self-expression, while also demonstrating diligence in understanding how others' viewpoints may be different from their own.

Our goal as a learning community is to create a safe environment that fosters open and honest dialogue. We are all expected to contribute to creating a respectful, welcoming, and inclusive environment. To this end, classroom discussions should always be conducted in a way that shows honor, respect, and dignity to all members of the class. Moreover, disagreements should be pursued without personal attack and aggression, and instead, should be handled with grace and care. This will allow for rigorous intellectual engagement and a deeper learning experience for all.

COMMUNICATION

Canvas

Posted will be the syllabus, resources (articles and examples), Power Point slides, announcements, guides, etc. To access this system, go to http://canvas.rutgers.edu log in, and click on the course on the dashboard.

Rutgers email - USE YOUR RUTGERS EMAIL ADDRESS

All communications to students will be done using the Rutgers email address provided to you. Please forward your Rutgers email to your personal email if necessary. **Not checking your Rutgers email is not an excuse for missing any communications.**

GENERAL /ADMINISTRATIVE

Pronouns

This course affirms people of all gender expressions and gender identities. Feel free to correct me on your preferred gender pronoun. If you have any questions or concerns, please do not hesitate to contact me.

Chosen Name (Preferred Name).

If you have a chosen name or preferred name other than what is listed on the roster, kindly let me know. If you would like to have your name changed within the rosters officially, go to: https://deanofstudents.camden.rutgers.edu/chosen-name-application

Key Fall 2023 Dates:

Fall 2023 classes begin	Tuesday, September 5th
Last day to drop classes w/o "W"	Tuesday, September 14th
Last day to add classes	Tuesday, January 14th

Last day to withdraw from an individual
class with a "W"   Monday, November 13th

Change in designation of class day   Tuesday, November 21 (observe Thursday schedule)
Change in designation of class day   Wednesday, November 22 (observe Friday schedule)

Thanksgiving recess   Thursday, Nov. 23rd – Sunday, Nov. 26th

Regular classes end   Wednesday, December 13th
Reading day   Thursday, December 14th
Final exam period   Friday, December 15th – Thursday, December 21st

Disability Services/Accommodations

The University is committed to supporting the learning of all students and faculty will provide accommodations as indicated in a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have already registered with ODS and have your letter of accommodations, please share this with me early in the course. If you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please contact https://success.camden.rutgers.edu/disability-services.

Accommodations will be provided only for students with a letter of accommodation from ODS. Their services are free and confidential. Letters only provide information about the accommodation, not about the disability or diagnosis.

Academic Integrity

The Academic Integrity policy can be found at https://studentconduct.rutgers.edu/processes/university-code-student-conduct http://studentconduct.rutgers.edu/student-conduct-processes/academic-integrity/

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the appropriate authorities.

Academic Integrity means that you (the student) must:
   •properly acknowledge and cite all use of the ideas, results, or words of others,
   •properly acknowledge all contributors to a given piece of work,
   •make sure that all work submitted as your own in a course activity is your own and not from someone else
   •obtain all data or results by ethical means and report them accurately
   • treat all other students fairly with no encouragement of academic dishonesty

Adherence to these principles is necessary to ensure that:
   •everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
   •all student work is fairly evaluated, and no student has an inappropriate advantage over others
   •the academic and ethical development of all students is fostered
   •the reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld. Violations are taken seriously and will be handled according to University policy.

Code of Student Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space.

As a student at the University you are expected adhere to the Code of Student Conduct.
To review the code, go to the Office of Community Standards:
https://deanofstudents.camden.rutgers.edu/student-conduct

Note that the conduct code specifically addresses disruptive classroom conduct, which means *"engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."*

Etiquette expectations from on-line students:
The following protocols on the codes of behavior reflect professional business norms on manners, courtesy, and respect. (***In general, you should treat others as you would like others to treat yourself. Be mindful that what is acceptable in a text or chatroom with friends may not be appropriate in a classroom or in an online conversation with an instructor***.)

Even though many of you are already aware of these protocols, they are explicitly stated here so that everyone is cognizant of the same protocols. These protocols should be followed by all students taking this course to help ensure the online experiences for everyone involved are pleasant. They are as follows:

- If you were to send an e-mail to the professor / tutor, please address the person appropriately such as "Dr. …." or "Mr./Ms. …." ,not 'Hey'. Note that I will address you with your first name, unless you prefer that I address you differently.

- When sending an e-mail, you can get better attention by using the following guidelines:
  - use descriptive subject lines, (I am sure you have received a lot of Spam e-mails and I have occasionally and accidentally deleted student e-mails that I thought was Spam.)
  - please be as brief as possible by going straight to the point, and if possible, limit the use of attachments

Never send offensive and insulting messages* (this is a violation of the Student Code of Conduct). If you disagree, say so and state your reasons. Social media is a very powerful tool for communication. However, it can be badly misused if it is not used correctly or professionally. For example, you may have personal and legitimate concerns with this course. However, other students, who do not have similar feelings, can be negatively influenced by your concerns. This will unnecessarily and negatively affect their overall experience of the course. Therefore, to minimize such an occurrence, please feel free to directly contact the instructor/tutor first to resolve any concerns that you may have to help ensure that everyone's online experience of this course is beneficial.

- Always guard against inciting others when it comes to content, opinions, etc. That is, avoid blaming or accusing others of wrongdoing.
- Do not start a volley of back-and-forth e-mails, with copies distributed to every student in the class.
- Copy the minimum number of people. That is, send e-mails to only the people you think should receive and will benefit from it.
- Treat all e-mails and postings as permanent forms of written record and do not expect that any your e-mail communications to be private, unless stated otherwise. Instead, assume that all e-mail communications are public.
- Do not publicize your own or others' personal information (such as email, phone numbers, last names, etc.)

Artificial Intelligence Use

<u>Acceptable and Unacceptable Use of AI</u>

The use of generative AI tools (ChatGPT, Dall-e,etc.) is permitted in this course for the following activities:
- Brainstorming and refining your ideas.
- Fine tuning your research questions.
- Finding information on your topic.
- Drafting an outline to organize your thoughts; and
- Checking grammar and style.

The use of generative AI tools is not permitted in this course for the following activities:
- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts assigned to you or content that you put into a Zoom chat.
- Completing group work that your group has assigned to you, unless it is mutually agreed upon that you may utilize the tool.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs, or papers to complete class assignments.
- You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contain misinformation or unethical content). Your use of AI tools must be properly documented and cited to stay within university policies on academic honesty. Any assignment that is found to have used generative AI tools in unauthorized ways based on guidelines in this syllabus, will be subject to report of a violation of Academic Integrity and thus the appropriate adjudication. When in doubt about permitted usage, please ask for clarification.