COURSE INFORMATION

Course title:	SUPPLY CHAIN ANALYTICS		
Course code:	BASC524	Credits:	1.5
Session, term, period:	2019W1, Period 7	Class location:	HA 335
Section(s):	001	Class times:	Tue/Thur, 10:00am - 12:00pm
Course duration:	Oct 29 – Dec 7, 2019	Pre-requisites:	n/a
Division:	OpLog	Co-requisites:	n/a
Program:	MBA		

INSTRUCTOR INFORMATION

Instructor:	Harish Krishnan		
Phone:	604-822-8394	Office location:	HA 467
Email:	krishnan@sauder.ubc.ca	Office hours:	By appointment

Teaching assistant:
Office hours:
Email:

COURSE DESCRIPTION

This course will expose students to the use of analytics techniques to help managers address problems and challenges that arise in the context of supply chain management.

Analytics, data science, machine learning and related techniques are increasingly being used to help address business problems. Supply chain management is one area where there are several opportunities to use advanced analytical techniques to improve design, coordination, planning and execution. This course will expose students to several analytical techniques that can be applied to improve decision making in supply chains. The primary focus will be on learning analytical techniques including regression, classification and clustering. The secondary focus is on applications in supply chains. The course is designed for to help students to understand advanced analytical techniques, and be able to think critically about data, models, and their applications in supply chain management.

COURSE FORMAT

The course will include lectures, case discussions, in-class case activities and simulations. Please see detailed course schedule below.

LEARNING OBJECTIVES

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

1. Understand the role of different kinds of models that support analytical decision making
2. Understand the role of descriptive, predictive and prescriptive analytics in making supply chain decisions
3. Be able to identify where to use predictive approaches like regression, classification and clustering approaches
4. Be able to apply simple predictive and prescriptive models to supply chain problems
5. Understand the intuition behind each of the above approaches
6. Be able to implement and run simple models of each type
7. Be able to interpret model results and apply it to case studies in supply chain management

ASSESSMENTS

Summary

Component	Weight
Group case report (Harmon)	25%
In-class case assignment (Whirlpool)	20%
Individual case memo (David Berman)	15%
Individual case memo (Big Basket)	15%
Class participation	25%
Total	100%

Details of Assessments

Assignment submission details:

- All cases and assignments must be submitted online; details on the course website.
- All cases analyses and cases memos must be submitted by the start of class on the day that the case or assignment is due.
- For group case analyses, only one member of each group needs to submit the analysis. Please make sure that the names of all group members are noted clearly in the submission.

Group case analysis:

- For the group case analysis, students must work in groups of 3.
- Students are free to form their own groups.
- Case analysis guidelines will be posted on the course website.
- Questions to guide the analysis will also be posted on the course website.

Group project:

- For the group project, students must work in groups of 3.
- Students are free to form their own groups.
- Project details and guidelines will be posted on the course website.

Individual assignments:

- Details and guidelines for the individual assignments (case memos) will be posted on the course website.

Class Participation:

- Please be ready and willing to actively engage in all aspects of the classroom learning experience. We all have something to contribute to the collective learning experience each day, and we all want to benefit from it.

LEARNING MATERIALS

Required:

1. Course pack containing Harvard cases and two Harvard simulations (will be available electronically; see information on course website)
2. Class notes (will be posted before class on course website: access via https://canvas.ubc.ca/)
3. Links to some required (and some recommended) readings will be posted on the course website
4. Syllabus (will be posted on course website)

COURSE-SPECIFIC POLICIES AND RESOURCES

Missed or late assignments, and regrading of assessments

Late submissions will not be accepted and will receive a grade of zero.

Academic Concessions

If extenuating circumstances arise, please contact the RHL Graduate School program office as early as reasonably possible, and submit an Academic Concession Request & Declaration Form https://webforms.sauder.ubc.ca/academic-concession-rhlee. If an academic concession is granted during the course, the student will be provided options by RHL, or by the instructor in consultation with RHL, per UBC's policy on Academic Concession.

Other Course Policies and Resources

POLICIES APPLICABLE TO COURSES IN THE ROBERT H. LEE GRADUATE SCHOOL

Attendance

Excepting extenuating circumstances, students are expected to attend 100% of their scheduled class hours. Absent students limit their own academic potential, and that of their classmates, and cause unnecessary disruption to the learning environment. Students missing more than 20% of the total scheduled class hours for a course (including classes held during the add/drop period) without having received an academic concession will be withdrawn from that course. Withdrawals, depending on timing, could result in a "W" or an "F" standing on the transcript.

Punctuality

Students are expected to arrive for classes and activities on time and fully prepared to engage. Late arrivals may be refused entry at the discretion of the instructor or activity lead. Students arriving later than halfway through a scheduled class will be treated as absent for that class.

Electronic Devices

Devices such as laptops, tablets, and cell phones are not permitted to be used in class unless directed by the instructor for in-class activities. Students who do not follow the School's policy in this regard may be required to leave the room for the remainder of the class, so that they do not distract others. Research shows that students' use of laptops in class has negative implications for the learning environment, including reducing their own grades and the grades of those sitting around them.

Citation Style

Please use the American Psychological Association (APA) reference style to cite your sources.

Details of the above policies and other RHL Policies are available at:
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=12,199,506,1625

UNIVERSITY POLICIES AND RESOURCES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions. Details of the policies and how to

access support are available on the UBC Senate website at https://senate.ubc.ca/policies-resources-support-student-success.

Academic Integrity

The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President's Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

COPYRIGHT

ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

COURSE SCHEDULE

(Subject to change with class consultation)

Week	Date	Topic	Assessments due
1	Oct 30	• Overview of analytics and data science • From data to decisions • The role of models • Simple predictive and prescriptive models	
	Nov 1	• Forecasting: Time series and regression models, Part 1	
2	Nov 6	• Forecasting: Time series and regression models, Part 2 • Harmon case assigned	
	Nov 8	• Predictive analytics application: Cost modeling (Whirlpool case discussion)	• In-class group case assignment: Whirlpool
3	Nov 13	• Predictive analytics applications: Harmon and Whirlpool case discussions	• Group case report: Harmon Foods
	Nov 15	• Classification models with simple applications • Logistic regression and classification trees • Advanced topics in predictive modeling: overfitting, regularization and model cross-validation	
4	Nov 20	• Introduction to the concept of similarity • Clustering and anomaly detection with simple applications	
	Nov 22	• Predictive analytics application: Big Basket case discussion	• Individual case memo: Big Basket
5	Nov 27	• Guest lecture: details to be finalized	
	Nov 29	• Predictive analytics application: Using inventory level information to predict earnings (David Berman case discussion)	• Individual case memo: David Berman