COURSE INFORMATION

Course title:	Fundamentals of Analytics and Tech		
Course code:	BA 515	Credits:	1.5
Session, term, period:	2020 S	Class location:	https://ubc.zoom.us/j/93366800840
Section(s):	300	Class times:	8:30am – 4:00pm
Course duration:	June 6, June 20, July 11	Pre-requisites:	n/a
Division:	AIS	Co-requisites:	n/a
Program:	Professional MBA		

INSTRUCTOR INFORMATION

Instructor:	Gene Moo Lee, Ph.D.		
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Teaching assistants:	Myunghwan Lee | Derek Dingan Chen
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COURSE DESCRIPTION

BA 515 is an introduction to business analytics and technology with two goals. The first is to introduce the fundamental concepts of analytics and technology platforms (e.g., big data, AI, machine learning) and their implications to business and industries. The second is to provide hands-on programming experiences to acquaint students with Python programming language and its rich ecosystem for data processing, data visualization, and text analytics.

COURSE FORMAT

We will use the "Zoom" to have our classes during the scheduled class times. Class time will be used for a combination of recorded/live lectures, live programming, group/class discussions, and guest lectures. Attendance is expected to accomplish the learning objectives below. Lectures and discussions will assume that students having pre-read the corresponding materials as listed in the course schedule.

LEARNING OBJECTIVES

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

1. Explain the concepts of data analytics and the implications to business
2. Explain the technology platforms and their implications to business
3. Get hands-on experiences on Python programming
4. Have working knowledge on basic data visualization and text analytics in Python

LEARNING MATERIALS

1. Slides and codes: Dropbox link will be provided in Canvas
2. Technology requirements: UBC Jupyter preferred (or Anaconda installed on laptop)
3. Canvas: course management, announcement, assignments, grade posting
4. DataCamp: supplement learning platform for Python programming
5. Piazza: online discussion forum (Let's not use email for Q&A)
6. Class reading list: link

ASSESSMENTS

Summary

Component	Weight
Programming assignments	30%
Book review	30%
Final exam	30%
Class participation	10%
Total	100%

Details of Assessments

Programming Assignments (30% = 15% x 2 assignments)

Learning programming requires a lot of hands-on practices. To provide a rich practice environment, I will assign 2 individual programming assignments in Canvas.

Book Review (30%)

This book review assignment is to give you a chance to think how analytics and technologies are changing different industries and our society at large. Many revolutionary technologies (e.g., Big Data, analytics, AI, machine learning, robotics, mobile computing, and cloud computing) are impacting a variety of industry sectors (e.g., advertising, education, marketing, finance, healthcare, entertainment, and retail). In that, I want to provide you the flexibility to choose the book you want to read among the following list. Details of this assignment will be provided in Canvas.

Exam (30%)

There will be one written exam at the end of the course. You are responsible for everything that is covered in the classroom, including additional materials discussed in class. The exam will consist of multiple-choice questions. The exams will be in open book and notes.

Class Participation (10%)

We all bring experience and knowledge into the classroom, and all class participants should share this and benefit by it. Effective class participation includes: (1) solving programming questions during the lecture, (2) asking significant questions about concepts, (3) sharing your experience or point of view with the class, (4) building on points raised by others, (5) clarifying issues. The participation can be either in Zoom lecture or in Piazza (the online Q&A platform the class will use). Piazza allows students to post questions (publicly, anonymously, and privately) and to answer questions from the peers. Providing thorough and clear answers and ideas on the Piazza discussion board will be considered when calculating your participation grade. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. If you have any problems or feedback for the developers, email team@piazza.com. Find our class page at:
https://piazza.com/ubc.ca/summer2020/ba5153002020s/home

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

1. For course related communication, please use Piazza (no emails for course-related questions!). For general questions that apply to the whole class, you can use create a public Piazza post publicly or anonymously (in this case other students do not know your identity). For private questions that only apply to yourself, you can create a private post in Piazza, which only instructors can see.
2. TA and instructor will try the best to respond to your questions within one business day. Please note that business day does not include weekends and holidays.

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. However, as we will spend significant time in programming, I encourage students to bring their laptops or tablets to follow the course. However, please limit the usage to the course related activities. Cellphones are not permitted.

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.

Specifically, this course has programming assignments. In the world of Internet, it can be tempting to copy and paste the codes. But I take code plagiarism issues very seriously. It is allowed to discuss high-level ideas with classmates. However, copying code or data (either fully or partially) is considered as academic dishonesty. If you use open source codes in the assignments, you should put an appropriate reference to it and respect the appropriate software license (e.g., GLP, MIT, Apache, etc.). If you are not sure about the boundary, please contact the instructor.

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.

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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)

Class	Module	Time	Topic	Reading/ Assessments due
June 6		8:30-9:00	Day 1 "Analytics" Orientation	
	1	9:00-10:30	[Lecture] Course introduction	Reading list: link Environment setup
	2	10:30-12:00	[Hands-on] Python Introduction (data types, variable assignments, module import)	
		12:00-13:00	Lunch break	
	3	13:00-14:30	[Lecture] Business Analytics (Guest Speaker: Sahil Jain, McKinsey, MBAN Class '18)	Reading list: link My analytics story
	4	14:30-16:00	[Hands-on] Data management and visualization (pandas, matplotlib)	Assignment #1 open
June 20		8:30-9:00	Day 2 "Tech" Orientation	Assignment #1 (due June 19)
	5	9:00-10:30	[Lecture] Algorithms and Computing Platforms	Reading list: link Tech neutrality
	6	10:30-12:00	[Hands-on] Intermediate Python 1 (list, string, dictionary)	
		12:00-13:00	Lunch break	
	7	13:00-14:30	[Hands-on] Intermediate Python 2 (condition, for/while loop)	Assignment #2 open
	8	14:30-16:00	[Lecture] IT Risk and Security (Guest Speaker: Baljeet Malhotra, Ph.D., TeejLabs)	Reading list: link
July 11		8:30-9:00	Day 3 "AI" Orientation	Assignment #2 (due July 10)
	9	9:00-10:30	[Lecture] AI, Machine Learning, and NLP in Business	Reading list: link "AI and jobs"
	10	10:30-12:00	[Hands-on] NLP in Python (word cloud, sentiment, translation, summarization)	Hackathon open
		12:00-13:00	Lunch break	
	11	13:00-14:30	[Hands-on] AI Hackathon / Wrap-up	
	12	14:30-16:00	[Lecture] Robotics & business (Guest Speaker: John Ha, Ph.D., Bear Robotics)	Reading list: link
July 26			Online Exam (Multiple-choice questions)	Book review (July 18)

Each module will consist of the following timeline:

Minutes (90)	Agenda	Sync/Async
5	Laying out learning objectives	Sync
25	Lecture (pre-recorded or Zoom real-time)	Sync or Async
10	Describe (exercise | discussion topic)	Sync
20	Breakout group (exercise | discussion)	Breakout group sync
10	Solution demo | class discussion	Sync
20	Break	Async