COURSE INFORMATION

Course title:	Fundamentals of Analytics & Technology		
Course code:	BA 515	Credits:	1.5
Session, term, period:	Class of 2022, Period 2	Class location:	Zoom (see Canvas for link)
Section(s):	001, 002	Class times:	T/R 10-12pm, 2-4pm
Course duration:	March 8 to April 16, 2021	Pre-requisites:	n/a
Division:	AIS (Information Systems)	Co-requisites:	n/a
Program:	FT MBA		

INSTRUCTOR INFORMATION

Instructor:	Gene Moo Lee, Ph.D.		
Phone:	604-827-4459	Office location:	See Canvas for Zoom link
Email:	gene.lee@sauder.ubc.ca	Office hours:	See Canvas for time

Teaching assistants:	Myunghwan Lee, Rui Cao
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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, mobile, cloud, 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

Class time will be used for a combination of lectures, live programming, and discussions. 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. Understand the concepts of data analytics and the implications to business
2. Understand 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 for slides, codes, and data
2. Technology requirements: Laptop with Python 3 environment (e.g., Anaconda, UBC Jupyter)
3. Canvas: course management, announcement, assignments, grade posting
4. DataCamp: online learning and assignments (**free access** will be provided by instructor)
5. Piazza: online discussion forum (Let's not use email for Q&A)
6. Recommended books for book review assignment: link
7. Class reading list: link

ASSESSMENTS

Summary

Component	Weight
DataCamp Assignments (2)	20%
Group Project	20%
Book Review	15%
Exam	35%
Class Participation	10%
Total	100%

Details of Assessments

DataCamp Assignments (20% = 10% x 2 assignments)

Learning programming requires a lot of hands-on practices. To provide a rich practice environment, you will be provided a free, unlimited access to DataCamp for 6 months. You will be assigned to complete two courses: (i) Introduction to Python and (ii) Intermediate Python for Data Science. You are free to explore other DataCamp courses outside this class.

Group Project (20%)

There will be one group project on social media analysis. Details, including submission guidelines, will be posted on Canvas. The class will be divided into groups of three or four. You are free to choose your own group **within the same section**. We may use iPeer to conduct peer-reviews, which results can be used to give differential marks for individuals. Please consult with the instructors on any group related issues.

Book Review (15%)

Among the recommended list, you will select a book and write a book review. Detailed rubrics and submission guidelines will be provided on Canvas. We may conduct anonymous peer reviews.

Exam (35%)

There will be a final 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 and data analysis questions. For some questions, students are expected to write codes based on the specifications. The exams will be in open book and notes.

Class Participation (10%)

Effective class participation includes: (1) solving questions during the lecture, (2) asking significant questions, (3) sharing your point of view with the class, and (4) building on points raised by others. The participation can be either in lecture or in Piazza (the online Q&A platform the class will use). Note that office hour visits are not counted as course participation. 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. We will consider both quantity and quality of the class participation. Rather than emailing questions to the instructor team, 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/winterterm22021/ba5150010022020w

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.

Communication and feedbacks

1. For course related communication, please use Piazza (no emails!). 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.
3. I expect you to keep professionalism and respect when communicating with your instructor, TA, and peers. Especially, I expect the same level of respect when you interact with the TA.

Code Plagiarism

Code plagiarism falls under the UBC policy for Academic Misconduct. Students must correctly cite any code that has been authored by someone else or by the student themselves for other assignments. Cases of "reuse" may include, but are not limited to:

a. the reproduction (copying and pasting) of code with none or minimal reformatting (e.g., changing the name of the variables)
b. the translation of an algorithm or a script from a language to another
c. the generation of code by automatic code-generations software

An "adequate acknowledgement" requires a detailed identification of the (parts of the) code reused and a full citation of the original source code that has been reused.
Students are responsible for ensuring that any work submitted does not constitute plagiarism. Students who are in any doubt as to what constitutes plagiarism should consult their instructor before handing in any assignments.

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

This is a programming course, and I encourage students to use their laptops or tablets to follow the course. However, please limit the usage to the course related activities. Cellphones are not permitted.

During online lectures, students are not permitted to use any electronic devices other than the primary one used for attending the online lecture (e.g. laptop or desktop). Only Zoom should be open during the online lecture unless an instructor advises the use of another program/website for an in-class activity. Feedback from students indicates that personal devices are the number one distraction from effective learning and participation in the online learning environment.

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.

Respect for Equity, Diversity, and Inclusion

The UBC Sauder School of Business strives to promote an intellectual community that is enhanced by diversity along various dimensions including status as a First Nation, Metis, Inuit, or Indigenous person, race, ethnicity, gender identity, sexual orientation, religion, political beliefs, social class, and/or disability. It is critical that students from diverse backgrounds and perspectives be valued in and well-served by their courses. Furthermore, the diversity that students bring to the classroom should be viewed as a resource, benefit, and source of strength for your learning experience. It is expected that all students and members of our community conduct themselves with empathy and respect for others.

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. 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 (e.g., URL) 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.

Academic Freedom and Students Studying from Outside Canada

During this pandemic, the shift to online learning has greatly altered teaching and studying at UBC, including changes to health and safety considerations. Keep in mind that some UBC courses might cover topics that are censored or considered illegal by non-Canadian governments. This may include, but is not limited to, human rights, representative government, defamation, obscenity, gender or sexuality, and historical or current geopolitical controversies. If you are a student living abroad, you will be subject to the laws of your local jurisdiction, and your local authorities might limit your access to course material or take punitive action against you. UBC is strongly committed to academic freedom, but has no control over foreign authorities (please visit http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,33,86,0 for an articulation of the values of the University conveyed in the Senate Statement on Academic Freedom). Thus, we recognize that students will have legitimate reason to exercise caution in studying certain subjects. If you have concerns regarding your personal situation, consider postponing taking a course with manifest risks, until you are back on campus or reach out to your academic advisor to find substitute courses. For further information and support, please visit: http://academic.ubc.ca/support-resources/freedom-expression

COPYRIGHT

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline and could be subject to legal action. Any lecture recordings are for the sole use of the instructor and students enrolled in the class. In no case may the lecture recording or part of the recording be used by students for any other purpose, either personal or commercial. Further, audio or video recording of classes are not permitted without the prior consent of the instructor. Students may not share class Zoom links or invite others who are not registered to view sessions.

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.

ONLINE TEACHING TOOL & REQUIREMENTS

This course will be taught using Zoom for synchronous classes and office hours.

For this course, you are required to use a Zoom account during synchronous classes and office hours. If you do not have a Zoom account, you can create one here: https://zoom.us/signup. Note: creating a Zoom account requires that you provide a first name, last name, and email address to Zoom. For privacy

purposes, you may consent to using your existing email address and your real name. Alternatively, if you prefer, you may sign up using an alternative email address and an anonymized name that does not identify you (i.e. Jane Doe, jane.doe@email.com). If you have trouble creating an account, or accessing a Zoom session, please contact CLCHelp@sauder.ubc.ca. You will be required to provide the email address associated with your Zoom account in a Canvas quiz for identification purposes.

To help replicate the classroom experience, make sessions more dynamic and hold each person accountable, both students and instructors are required to have their cameras on during Zoom sessions. Students who require an accommodation with regard to the "camera on" requirement must contact their instructors in advance of the first class to discuss options. As professional graduate students, students are expected to conduct themselves professionally by joining sessions on time, muting mics when not speaking, refraining from using any other technology when in-session, attending in business casual dress (at a minimum), and participating from a quiet environment. Content from synchronous sessions will be selectively recorded per instructor discretion and made available to students on Canvas for a maximum duration of the course length. This is done to allow students the opportunity to return to lecture content to solidify learnings.

COURSE SCHEDULE

(Subject to change with class consultation)

Week	Class	Date	Topics*	Readings	Assignments**
1	1	03/09	[Course Introduction] Hello Python	Class reading	DA#1, #2 open
	2	03/11	Lists Functions, modules, packages		
2	3	03/16	[Business Analytics] Scientific computing with `numpy`	Class reading	DA#1 due (03/15)
	4	03/18	Data visualization with `matplotlib` Dictionaries and `pandas` dataframes		Project open (03/18)
3	5	03/23	[Algorithms & Computing Platforms] Logic, control flow, and filtering	Class reading	DA#2 due (03/22)
	6	03/25	`for` loops basics Data collection with Twitter API		
4	7	03/30	Text preprocessing, Word cloud Sentiment analysis		
	8	04/01	Project workshop		Book review due (04/02)
5	9	04/06	[IT Risk and Security] [AI in Business and Society]	Class reading Class reading	
	10	04/08	Final review		Project due (04/09)
Exam	Final Exam		Online Final Exam (Multiple choices, programming)	TBD by RHL	

* Topics in [ ] will be covered in lectures/discussions and others will be hands-on programming sessions
** DA: DataCamp Assignment