COURSE INFORMATION

Course title:	Database Applications in Business Systems		
Course code:	BAIT 580A	Credits:	1.5
Session, term, period:	2022W, Period 3	Class location:	HA 133
Section(s):	BA1/BA2	Class times:	Tues/Thu 8 – 10 AM (BA2)/ 10 – 12 -PM (BA1)
Course duration:	Jan 03 - Feb 02, 2023	Pre-requisites:	N/A
Division:	BAIT	Co-requisites:	N/A
Program:	MBAN		

INSTRUCTOR INFORMATION

Instructor:	Gittu George, Ph.D		
Phone:		Office location:	Virtual
Email:	ggeorg02@cs.ubc.ca	Office hours:	TBD

Teaching assistant:	TBD
Office hours:	TBD

COURSE DESCRIPTION

Good business decisions rest on well structured data and robust analytics. Increasingly, businesses are challenged with combining data produced in-house with external data, such as financial data, weather information or census reports, to fully account for a complex and evolving business landscape. This course will build on prior work with databases to help participants understand how decisions about database structure, and the questions we ask about data can inform business analytics.

The course will cover setting up various databases in cloud, interaction with cloud systems, data models, database optimization using indexes and query optimizers, to help speed-up business-critical analysis, data warehousing, and showcase analytic workflows that highlight the utility of databases in modern business applications. We will also explore other NoSQL databases like graph databases and document databases, and how such tools can be used to provide value in the world of business informatics and analysis.

COURSE FORMAT

This will be a face-to-face session during the scheduled class times. Class time will be used to work through examples and discuss issues and topics related to the weeks course material.

Courses will be delivered using written material with supplemental video examples, along with code examples.

LEARNING OBJECTIVES

By the end of this course, students will be able to:
- Explain key concepts with regards to databases in a business setting.
- Understanding cloud-based systems and being capable in using them for your project.

▪ Apply knowledge of SQL and database applications to connect to databases and perform basic analytics
▪ Evaluate database performance and data needs with regards to specific analytics questions
▪ Create analytic reports using data from multiple sources to clearly answer specific questions that are of interest from a business perspective
▪ Distinguish various NoSQL databases and ability to use it in your business setting.

ASSESSMENTS

Summary

Component	Weight
Assignments	50%
Final Exam	40%
Worksheets	10%
Total	100%

Details of Assessments

There will be 2 worksheets each week and 3 assignments during the period that will be individually assessed. Finally, the final exam will take up the remaining 40% and will be conducted in-person at the end of the term.

LEARNING MATERIALS

Required: Online reading materials and links will be provided.

Estimated cost of required materials: $0

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. 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

A significant component of answer sets for this course relies on programmatic code. In some cases solutions to problems can be found online, using resources such as StackOverflow, Reddit or other

online communities. It is expected that a participant cite the URL of the source if such code represents more than two lines of a course participant's submission. This citation can be placed as a comment in the code itself.
Failure to properly cite sources will be penalized based on the amount of code used without citation, and the importance of that code for the overall result.

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:
• the reproduction (copying and pasting) of code with none or minimal reformatting (e.g., changing the name of the variables)
• the translation of an algorithm or a script from a language to another
• 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.

COVID-19 Policies for Attendance & Academic Concessions:

If a student feels unwell, they should stay home and send a courtesy email to each impacted instructor and cc their program manager. The student should also submit an Academic Concession Request & Declaration Form.

If a student suspects possible COVID-19 infection, they should use the BC Ministry of Health's self-assessment tool, to help determine whether further assessment or testing for COVID-19 is recommended.

If a student is required to self-isolate (e.g., while waiting for test results), they should follow the steps above (stay home, email instructor(s) and program manager, submit an Academic Concession Request & Declaration Form, and follow BC Health Guidance.

Students who are required to quarantine, should get in touch with their Program Manager to discuss the possibility of academic concessions for each impacted course. The Program Manager will work closely with your instructors to explore options for you to make up the missed learning.

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.

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. 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

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.

COURSE SCHEDULE

(Subject to change with class consultation)

Class	Synchronous Or Asynchronous	Date	Topic
1	Synchronous	January 3	Introduction to Big Data & cloud computing

2	Synchronous	January 5	Introduction to RDS and interaction with AWS
3	Synchronous	January 10	Faster SQL (Indexing)
4	Synchronous	January 12	(de)Normalization & Data Warehousing
5	Synchronous	January 17	Introduction to NoSQL and Graph Databases
6	Synchronous	January 19	Querying Graph Databases (Part 1)
7	Synchronous	January 24	Querying Graph Databases (Part 2)
8	Synchronous	January 26	Document Databases Intro
9	Synchronous	January 31	Querying Document Databases
10	Synchronous	February 2	Class Conclusions/Special Topics