

ML 552 – Data Analytics and Visualization **School of Business and Management**

6 Credits

Effective Date: 7/1/2022

Grading Type: Decimal

Pre-requisite: None

Access to the Internet is required.

All written assignments must be in Microsoft-Word-compatible formats.

See the library's APA Style Guide tutorial for a list of resources that can help you use APA style.

Faculty Information

Professional experience information for instructors is found under *Syllabus, Schedule, and Course Team* in the online course menu.

Contact Information

Contact information for instructors is found under *Syllabus, Schedule, and Course Team* in the online course menu.

Course Description

This course begins with the application of data-oriented analysis techniques for business intelligence and organizational decision-making. Students will examine a range of tools to enhance the managerial and leadership decision-making processes such as pivot tables, descriptive statistics, statistical process control for business process improvement, and data models to predict future trends. Then students will learn the best practices for communicating the results of their data analysis. They will analyze the questions the organization has asked, collect and analyze relevant data sets, and then present the results in a way that addresses the original questions.

Course Resources

Required and recommended resources to complete coursework and assignments are found on the course [Reading List](#). Access is provided through the *Reading List* link in your online course as well as from the library homepage (“Find Your Reading List” button).

Note: Required resources that must be purchased by the student are tagged “Purchase from a vendor of your choosing.” Required resources with a direct link, “Available through CityU Library”, are available electronically at no cost to students.

Students in Canada may purchase course resources from the [Canada Bookstore](#), and students outside the U.S. and Canada should contact their advisor or textbook coordinator for additional information.

Course Outcomes

In this course, learners:

- Conduct a critical and descriptive analysis of current operational procedures to identify management and market opportunities
- Prepare and critique presentations or documents that detail the results of data analysis projects
- Describe how predictive analytics can be used to implement forward-looking strategies
- Use prescriptive analytics to develop and drive operational plans that lead to sustainable organizational growth

Grading Scale

The grades earned for the course will be calculated using City University of Seattle’s decimal grading system, found in the current University Catalog (<https://www.cityu.edu/catalog/>).

Grading rubrics with details on how each assignment will be graded are located under *Assignments* and/or in *My Grades* in the online course menu. Students should review the rubric for each assignment prior to completing their work in order to understand how it will be assessed.

Course Assignments and Grading

The grades earned for the course will be derived using City University of Seattle's decimal grading system, based on the following:

<i>Overview of Required Assignments</i>	<i>% of Final Grade</i>
Formative Assessments	60%
Final Data Analysis Project	40%
TOTAL	100%

SPECIFICS OF COURSE ASSIGNMENTS

The instructor will provide grading rubrics that will provide more detail as to how this assignment will be graded.

Formative Assessments

Class participation through formative assessments is an integral part of this course. Formative assessments can be journals, papers, activities, quizzes, discussions, wikis, or other activities determined by the course manager and instructor. Each formative assessment includes its own rubric and/or due date as outlined within the activity to balance participation and enhance learning. Whether in class, online, or in a mixed mode setting, students will be graded on their ability to present, explain, or defend alternative viewpoints and the degree to which they have mastered the concepts and principles inherent in the study of leadership. Written work is assessed on relevance to the subject presented, adherence to writing mechanics and organization, and professional presentation.

<i>Components</i>	<i>% of Grade</i>
Use of Concepts	100%
TOTAL	100%

Final Data Analysis Project

Students will use data either provided in class or data from their organization to conduct a data analysis and data visualization report designed to be shown to organizational leaders. This report should focus on presenting management or marketing opportunities developed from the data.

This project will include a report that will demonstrate the results of at least three types of data analysis in an operational analysis that is illustrated with the appropriate visualizations. The report will also contain an operational plan addressing possible management or marketing opportunities presented by the data

analysis which the organizational leaders can use to drive sustainable growth.

The Report will be comprised of three (3) sections:

- (1) Executive Summary
- (2) Operational Analysis
- (3) Operational Plan

The report should be formatted in a manner that best illustrates the student's findings and the data. APA citations and references will be expected to support the student's final operational plan. The report will be single-spaced with a minimum of 3000 to 5000 words of written text excluding a title page, visualizations, references, and appendices.

Components	% of Grade
Operational Plan	25%
References and APA	10%
Data Analysis	30%
Data Visualization	20%
Writing and Organization	15%
TOTAL	100%

Course Policies

Late Assignments

This course is in the Online Asynchronous format therefore, there are no firm due dates. Instead, you will see a recommended due date. However, all work must be completed by the end of class. Work turned in after the last day may not be graded.

Professional Writing

Assignments require error-free writing that uses standard English conventions and logical flow of organization to address topics clearly, completely, and concisely. CityU requires the use of APA style.

Participation

Participation is determined through your active engagement in classroom activities each week. This can be measured through your discussion board posts or by submitting an assignment when due.

University Policies

Students are responsible for understanding and adhering to all of City University of Seattle's academic policies. The most current versions of these policies can be found in the [University Catalog](#) that is linked from the CityU Web site.

Antidiscrimination

City University of Seattle and its staff and faculty are committed to supporting our students. We value equity, diversity, and inclusion as a way of life as well as the educational opportunities it provides. City U will not tolerate any form of discrimination based on race, color, ethnicity, sexual orientation, gender identification, socioeconomic status, or religious values. If you have experienced any discrimination based on any of the above, we encourage you to report this to the University. Please report this to your instructor. If you do not feel safe reporting this to your instructor, please report to the Provost or to the Vice President of Student Affairs.

Non-Discrimination & Prohibition of Sexual Harassment

City University of Seattle adheres to all federal, state, and local civil rights laws prohibiting discrimination in employment and education. The University is committed to ensuring that the education environment is bounded by standards of mutual respect and safety and is free from discriminatory practices.

In the U.S., the University is required by Title IX of the Education Amendments of 1972 to ensure that all of its education programs and activities do not discriminate on the basis of sex/gender. Sex include sex, sex stereotypes, gender identity, gender expression, sexual orientation, and pregnancy or parenting status. Sexual harassment, sexual assault, dating and domestic violence, and stalking are forms of sex discrimination, which are prohibited under Title IX and by City University of Seattle policy. City University of Seattle also prohibits retaliation against any person opposing discrimination or participating in any discrimination investigation or complaint process internal or external to the institution. Questions regarding Title IX, including its application and/or concerns about noncompliance, should be directed to the Title IX Coordinator. For a complete copy of the policy or for more information, visit <https://my.cityu.edu/titleix> or contact the Title IX Coordinator.

In Canada, in compliance with the British Columbia Human Rights Code, the Alberta Human Rights Act, WorksafeBC, and the Workers' Compensation Board of Alberta, the University believes that its environment should at all times be supportive and respectful of the dignity and self-esteem of individuals. Discrimination, harassment and bullying conduct, whether through person to person behavior or via electronic communications such as email or social media is not acceptable and will not be tolerated. As an educational institution, it is our responsibility to cultivate an environment of excellence, equity, mutual respect and to recognize the value and potential of every individual. The University will take all necessary steps to meet or exceed the requirements of the law to prevent discrimination, harassment and bullying. The Respectful Workplace Policy for the prevention of discrimination,

harassment and bullying policy and procedure can be found at <https://www.cityu.edu/discover-cityu/about-cityu/> under the Policies section or at <https://www.cityuniversity.ca/about/>.

Religious Accommodations

City University of Seattle has a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The University's policy, including more information about how to request an accommodation, is available in the University Catalog and on the my.cityu.edu student portal. Accommodations must be requested by the 20% mark of this course (e.g. day 14 of a ten-week course, day 7 of a 5-week course) using the Religious Accommodations Request Form found on the student dashboard in the my.cityu.edu student portal.

Academic Integrity

Academic integrity in students requires the pursuit of scholarly activity that is free from fraud, deception and unauthorized collaboration with other individuals. Students are responsible for understanding CityU's policy on academic integrity and adhering to its standards in meeting all course requirements. A complete copy of this policy can be found in the [University Catalog](#) under *Student Rights and Responsibilities* on the page titled *Academic Integrity Policy*.

Attendance

Students taking courses in any format at the University are expected to be diligent in their studies and to attend class regularly.

Regular class attendance is important in achieving learning outcomes in the course and may be a valid consideration in determining the final grade. For classes where a physical presence is required, a student has attended if they are present at any time during the class session. For online classes, a student has attended if they have posted or submitted an assignment. A complete copy of this policy can be in the [University Catalog](#) under *Student Rights and Responsibilities* on the page titled *Attendance*.

Final Assignment Due Date

Final assignments for each class at CityU must be due on or before the final date of the course as indicated in the university's course information system. Due dates that extend beyond the final date of the course may negatively impact tuition funding for students.

Support Services

Disability Services Accommodations Statement

Students with a documented disability who wish to request academic accommodations are encouraged to contact Disability Support Services to discuss accommodation requests and eligibility requirements. Please contact Disability Support Services at disability@cityu.edu or 206.239.4752 or visit the [Disability Support Services](#) page in the my.cityu.edu portal. Confidentiality will be observed in all inquiries. Once approved, information about academic accommodations will be shared with course instructors.

Library Services

CityU librarians are available to help students find the resources and information they need to succeed in this course. Contact a CityU librarian through the [Ask a Librarian](#) service, or access [library resources and services online](#), 24 hours a day, seven days a week.

Smarthinking Tutoring

CityU students have access to free online tutoring offered through Smarthinking, including writing support, from certified tutors 24 hours a day, seven days a week. Contact CityU's Student Support Center at help@cityu.ed to request a user name and password.