

PM 422 – Communicating with Data

School of Business and Management

5 Credits

Effective Date: 1/1/21

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 *Faculty Information* in the online course menu.

CONTACT INFORMATION

Contact information for instructors is found under *Faculty Information* in the online course menu.

COURSE DESCRIPTION

This course introduces students to data visualization competency within the domain of project management. Project managers dedicate a considerable amount of their time to communicating various dimensions of projects and exchanging relevant insights with the members of virtual and global teams. The dynamics of communication on a global scale in parallel with the growing complexity and uncertainty of the business landscape collectively present a wide range of challenges to project managers related to exchanging data on project scope, time, cost, risk, change, and other critical factors. Informed by these challenges, this course is centered on best

practices in data visualization that enhance project communications. In addition, students gain insights in incorporating various data points for project management analysis as well as those related to the Internet of Things (IoT).

COURSE RESOURCES

Required and recommended resources to complete coursework and assignments are found on the course [Reading List](#).

Note: resources listed under "Required - Must Purchase" should be purchased from a vendor of the student's own choosing; resources listed under "Available from the Library" are available 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

This course will prepare students to:

1. Understand the complexity of IoT and other disparate data sources of project management data leveraged for analysis.
2. Interpret information about project data in terms of its usefulness in project management decisions.
3. Present data and analyses to project stakeholders in a format that is clear and informative.
4. Apply visualization best practices related to leveraging the appropriate charts, graphs, and data context.
5. Build project dashboards that project managers can utilize to evaluate project performance and make data-driven decisions.

ADDITIONAL INFORMATION

Core Concepts, Knowledge, and Skills

- Budget Breakdown Measurement
- Code of Ethics and Professional Conduct
- Communication measurement
- Cost and schedule measurement
- Project presentation and communication
- Project progress / performance measures
- Status Reporting
- Visualization and presentation of performance measures

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

% of Grade	Undergraduate Percentage Scale	0.00 – 57.49%	57.50 – 76.24%	76.25 - 93.74%	93.75 - 100%
	Undergraduate Scaled Score	0.0 – 0.6	0.7 – 2.1	2.2 - 3.5	3.6 - 4.0
		Below Standard	Approaching Standard	At Standard	Exceeds Standard

Overview of Course Grading

<i>Overview of Required Assignments</i>	<i>% of Final Grade</i>
Instructor Determined Activities	20%
Visualization Case 1 - Individual	25%
Visualization Case 2 - Individual	25%
Final Case - Team	30%
TOTAL	100%

Instructor Determined Activities (20% of Final Grade)

Whether in class, online, or in a mixed mode setting, students will be graded on their participation in classroom discussions; 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 project management. Written work will be assessed not only on relevance to the subject presented, but also on adherence to good written form, APA style, and professional presentation. The instructor may also choose to create additional activities to support learning in the classroom or online.

<i>Components</i>	<i>% of Grade</i>
Class Participation	100%
TOTAL	100%

Visualization Cases - Individual (2) (50% of Final Grade)

Throughout the course, students will work with project data and create visualization to communicate project information. The instructor will assign a scenario, or the student may select their own scenario with instructor approval in which the student will act as a project manager and create visuals to communicate the desired outcomes to the intended audience. The scenario will include the message, the audience, the data, and the desired outcomes. Students will use Tableau to complete the visual. A different case will be utilized each quarter; therefore, requirements for each case will vary depending upon the nature of the scenario of interest. Accordingly, specific instructions and set of requirements (e.g., format, references, and page count) will be included in the description of each case.

<i>Components</i>	<i>% of Grade</i>
Visual Presentation Design	75%
Audience Understanding	15%
Desired Outcomes	10%
TOTAL	100%

Final Case - Team (30% of Final Grade)

Students will be assigned to teams. Groups will work with project data and create a project dashboard for a case. The instructor will assign a scenario in which the team will act as a project team and create a project dashboard that will be utilized for two (2) separate cases. The cases will include the message, the audience, the data, and the desired outcomes for each dashboard. Students will use Tableau to complete the visual. A different case will be utilized each quarter; therefore, requirements for each case will vary depending upon the nature of the scenario of interest. Accordingly, specific instructions and set of requirements (e.g., format, references, and page count) will be included in the description of each case.

<i>Components</i>	<i>% of Grade</i>
Visual Presentation Design	75%
Audience Understanding	15%
Desired Outcomes	10%
TOTAL	100%

COURSE POLICIES

Late Assignments

A critical part of project management is to meet schedules. Therefore, all assignments are expected to be submitted when due. Late assignment will be penalized 10 points. Any assignment more than 2 weeks late will be penalized 25 points. It is in the student's best interest to ensure that all assignments are submitted on time.

Participation

Class participation will be evaluated during class. Participation includes being prepared for class discussions and contributing meaningful content when appropriate. It also includes individual effort contributed to the team project.

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.

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.

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 behaviour 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.

PM 422 – Rubrics

Visualization Cases - Individual (2) (50% of Final Grade)

Throughout the course, students will work with project data and create visualization to communicate project information. The instructor will assign a scenario, or the student may select their own case with the instructor’s approval in which the student will act as a project manager and create visuals to communicate the desired outcomes to the intended audience. The scenario will include the message, the audience, the data, and the desired outcomes. Students will use Tableau to complete the visual. A different case will be utilized each quarter; therefore, requirements for each case will vary depending upon the nature of the scenario of interest. Accordingly, specific instructions and set of requirements (e.g., format, references, and page count) will be included in the description of each case.

Graduate Percentage Scale:		0.00 - 57.49%	57.50 - 76.24%	76.25 - 93.74%	93.75 - 100%
Graduate Scaled Score:		0.0 - .6	.7 - 2.1	2.2 - 3.5	3.6 - 4.0
	% of Grade	Below Standard	Approaching Standard	At Standard	Exceeds Standard
Analysis: How well is critical thinking applied? Does student/team highlight all key points of the project scenario? How well	75	Analysis and visualization is vague or chart/graphs not leveraged correctly. Recommended	Analysis shows insight at times and visualization choices are partially correct. Reader can observe key data points. Recommended	Analysis is thorough, and the recommended visualizations address the points required to be addressed in	Analysis is thorough, and visualizations go beyond the obvious. Visualizations call out key points and

does the visual recommendations and communication align with the scenario? Is this scenario fully analyzed and explained?		visualization solutions are not clear or explained. Key data points are not visually communicated.	visualization solutions address some gaps and are partially completed.	the case. Visualizations call out key points and are clearly communicated.	are clearly communicated. Best practices on charts and graphs are followed.
Audience Understanding: How well does the student see the project audience or project stakeholder view? Does visualization match the message?	15	Improper use of chart, grammar, spelling, syntax, punctuation, and style (7+ errors). Visuals do not convey a clear message.	Some improper use of charts, grammar, spelling, syntax, punctuation, and style (4-6 errors). Visuals are adequate with some ambiguity.	Mostly proper chart selection, grammar, spelling, syntax, punctuation, and style (2-3 errors). Visuals are clear and message is clear.	Proper visual choices, grammar, spelling, syntax, punctuation, and style (0-1 errors). Visuals present a compelling message to the project audience and stakeholders.
Desired Outcomes: Did the analysis and visualization result in the desired actions or outcomes of the scenario?	10	Student offers superficial observations and recommendations on effective solutions to a few of the problems, issues, and/or risks of the project.	Student offers shallow observations and recommendations on effective solutions to some of the problems, issues, and/or risks of the project.	Student proposes solid, well-thought out observations and recommendations on effective solutions to many of the problems, issues, and/or risks of the project.	Student provides well-reasoned, logical, and relevant observations and recommendations on effective solutions to the problems, issues, and/or risks of the project.
Total: 100					

Final Case - Team (30% of Final Grade)

Students will be assigned to teams. Groups will work with project data and create a project dashboard for a case. The instructor will assign a scenario in which the team will act as a project team and create a project dashboard that will be utilized for two (2) separate cases. The cases will include the message, the audience, the data, and the desired outcomes for each dashboard. Students will use Tableau to complete the visual. A different case will be utilized each quarter; therefore, requirements for each case will vary depending upon the nature of the

scenario of interest. Accordingly, specific instructions and set of requirements (e.g., format, references, and page count) will be included in the description of each case.

Graduate Percentage Scale:		0.00 - 57.49%	57.50 - 76.24%	76.25 - 93.74%	93.75 - 100%	
Graduate Scaled Score:		0.0 - .6	.7 - 2.1	2.2 - 3.5	3.6 - 4.0	
		% of Grade	Below Standard	Approaching Standard	At Standard	Exceeds Standard
Analysis: How well is critical thinking applied? Does student/team highlight all key points of the scenario? How well does the visual recommendations and communication align with the scenario? Is this scenario fully analyzed and explained.	55	Analysis and visualization is vague or chart/graphs not leveraged correctly. Recommended visualization solutions are not clear or explained. Key data points are not visually communicated.	Analysis shows insight at times and visualization choices are partially correct. Reader can observe key data points. Recommended visualization solutions address some gaps and are partially completed.	Analysis is thorough, and the recommended visualizations address the points required to be addressed in the case. Visualizations call out key points and are clearly communicated.	Analysis is thorough, and visualizations go beyond the obvious. Visualizations call out key points and are clearly communicated. Best practices on charts and graphs are followed.	
Audience Understanding: How well does the student see the audience or stakeholder view? Does visualization match the message?	15	Improper use of chart, grammar, spelling, syntax, punctuation, and style (7+ errors). Visuals do not convey a clear message.	Some improper use of charts, grammar, spelling, syntax, punctuation, and style (4-6 errors). Visuals are adequate with some ambiguity.	Mostly proper chart selection, grammar, spelling, syntax, punctuation, and style (2-3 errors). Visuals are clear and message is clear.	Proper visual choices, grammar, spelling, syntax, punctuation, and style (0-1 errors). Visuals present a compelling message to the audience and stakeholders.	
Desired Outcomes: Did the analysis and	10	Student offers superficial observations and	Student offers shallow observations and recommendations on	Student proposes solid, well-thought out observations and	Student provides well-reasoned, logical, and relevant	

visualization result in the desired actions or outcomes of the scenario?		recommendations on effective solutions to a few of the problems, issues, and/or risks.	effective solutions to some of the problems, issues, and/or risks.	recommendations on effective solutions to many of the problems, issues, and/or risks.	observations and recommendations on effective solutions to most of the problems, issues, and/or risks.
Team Contribution	20	Member completes all assigned tasks by deadline.	Member completes all assigned tasks by deadline; advises others of progress; work produced advances the project.	Member completes all assigned tasks by deadline; advises others of progress regularly and seeks assistance where necessary; work is thorough, as required, and advances the project.	Member completes all assigned tasks by deadline and/or seeks advice from others if delays are anticipated; work is creative, thorough, comprehensive, and significantly advances the project. Proactively helps other team members complete their assigned tasks to a similar level of excellence.
Total: 100					