COURSE OUTLINE		
TERM: Spring 2026	**COURSE NO:** BCPT 223	
INSTRUCTOR:	**COURSE TITLE:** Spreadsheet Analytics and Visualization	
OFFICE: **LOCAL:** **E-MAIL:** @capilanou.ca	**SECTION NO(S):**	**CREDITS:** 3
OFFICE HOURS:		
COURSE WEBSITE:		

Capilano University is named after Chief Joe Capilano (1854–1910), an important leader of the Sḵwx̱wú7mesh (Squamish) Nation of the Coast Salish Peoples. We respectfully acknowledge that our campuses are located on the unceded territories of the səlilwətaɬ (Tsleil-Waututh), shíshálh (Sechelt), Sḵwx̱wú7mesh (Squamish), and xʷməθkʷəy̓əm (Musqueam) Nations.

COURSE FORMAT
Three hours of class time, plus an additional hour delivered through on-line or other activities for a 15-week semester, which includes two weeks for final exams. May be offered online or in mixed mode format.

COURSE PREREQUISITES
One of the following: BCPT 123, BTEC 124, TOUR 149 or COMP 101

CALENDAR DESCRIPTION
This intermediate spreadsheet course teaches students the art of data analysis and visualization. Leveraging generative AI to dive deep into large-scale data sets, develop techniques to organize, analyze, and present business insights. Develop proficiency in advanced functions, macros, and pivot tables, and discover how to create dynamic and visually compelling dashboards. Ideal for business students seeking to support their data-driven decision-making skills.

COURSE NOTE
BCPT 223 is an approved Quantitative/Analytical course for baccalaureate degrees.
BCPT 223 is an approved Numeracy course for Cap Core requirements.

REQUIRED TEXTS AND/OR RESOURCES
Poatsy, M. A., Mulbery, K., Hogan, L., Davidson, J., Lau, L., Lawson, R., Kosharek, D. (2019). *Exploring Microsoft Office 2019 Comprehensive* (1st ed.). Pearson. (or similar)

And/Or

Open Source Resources such as MS-Office 365 Training Center. (or similar)

The instructor may include additional supplemental resources to augment the textbook readings and projects.

COURSE STUDENT LEARNING OUTCOMES

On successful completion of this course, students will be able to do the following:

1. Interpret large business data sets to generate insights and solve business problems.
2. Apply analysis tools to create and manage data visualizations and interactive dashboards.
3. Construct macros and automations to streamline repetitive tasks and create custom functions.
4. Apply advanced functions using the integration of generative AI to solve a variety of business-related scenarios.
5. Produce structured spreadsheet solutions with clear user interfaces that ensure security and data integrity

Students who complete this Numeracy course will be able to do the following:

- Apply both analytical and numerical skills to solve problems.
- Summarize and analyze data in quantitative forms.
- Interpret and draw conclusions from an analysis of quantitative data.
- Represent quantitative information in a variety of forms (e.g. symbolically, visually, numerically, and verbally).
- Incorporate quantitative evidence in support of an argument.

COURSE CONTENT

Week	Topics
1	Excel fundamentals and conditional formatting
2	Complex formulas using operators, cell references, named ranges, troubleshooting formulas. Logical (AND, OR, NOT, IFERROR,)
3	Statistical, and financial functions for data-driven decisions: PPMT, PV, NPV, RATE, CORREL, STDEV
4	Pivot tables analysis, and understanding data with charts, spark lines, and advanced conditional formatting.
5	Interactive data slicing using VLOOKUP, HLOOKUP, XLOOKUP, MATCH, INDEX, OFFSET and dynamic ranges
6	Streamlining and structuring text data through text functions, naming ranges, CONCAT, LEFT, LOWER, SUBSTITUTE, TEXTBEFORE, TEXTJOIN, TEXTSPLIT, TRIM
7 - 8	Creating tables to organize and analyze data using COUNTIF/S, SUMIF/S and data functions FILTER, SORT, UNIQUE, HSTACK Mid-term

9	Extracting external source data Build digital dashboards to present visual information
10	Exploring what if analysis with goal seek, scenario manager, paste special Simple linear programming with solver
11	Automating repetitive tasks and customizing spreadsheets with macros and automation
12	Expanding spreadsheet functionality using custom functions (macros and LAMBDA) and user interfaces
13	Creating and securing spreadsheets to collaborate and share with others.
14 - 15	FINAL EXAM PERIOD: Final Exam

EVALUATION PROFILE

Assessment	**Weight**	**LO**
In class Assessments (Minimum of 3)	25%	1-5
Assignments (T or I) - Case Studies or Business Scenarios (Minimum of 2) (Team component no more than 15%)	30%	1-5
Midterm Assessment	20%	1,2,4
Final Exam	25%	3, 5
Total	100%	

In-Class Assessments – In class activities to allow student to gauge their progress in course materials.

Assignments – Out of class activities to demonstrate mastery of course material

Midterm Assessment – Practical in-class examination using spreadsheet software to solve specific problems

Final Exam – Practical in class examination using spreadsheet software to solve specific problems, analyze large data sets and produce specified solutions

GRADING PROFILE

A+ = 90-100	B+ = 77-79	C+ = 67-69	D = 50-59
A = 85-89	B = 73-76	C = 63-66	F = 0-49
A- = 80-84	B- = 70-72	C- = 60-62	

Incomplete Grades
Grades of Incomplete "I" are assigned only in exceptional circumstances when a student requests extra time to complete their coursework. Such agreements are made only at the request of the student, who is responsible to determine from the instructor the outstanding requirements of the course.

Late Assignments
Are at the discretion of the instructor, please consult with your instructor beforehand.

Missed Exams/Quizzes/Labs etc.
Make-up exams, quizzes and/or tests are given at the discretion of the instructor. They are generally given only in medical emergencies or severe personal crises. Some missed labs or other activities may not be able to be accommodated. Please consult with your instructor. *** Accommodations can be made to honour community needs and traditional practices.

Attendance
Students are expected to attend all classes and associated activities, as specified by the delivery format.

English Usage
Students are expected to proofread all written work for any grammatical, spelling and stylistic errors. Instructors may deduct marks for incorrect grammar and spelling in written assignments.

Electronic Devices
Students may use electronic devices during class for note-taking only as specified by the instructor.

On-line Communication
Outside of the classroom, instructors will (if necessary) communicate with students using either their official Capilano University email or eLearn; please check both regularly. Official communication between Capilano University and students is delivered to students' Capilano University email addresses only.

UNIVERSITY OPERATIONAL DETAILS

Tools for Success
Many services are available to support student success for Capilano University students. A central navigation point for all services can be found at: https://www.capilanou.ca/student-services/

Capilano University Security: download the CapU Safe Alert App

Policy Statement (S2009-06)

Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Academic Integrity, Academic Probation and other educational issues. These and other policies are available on the University website.

Academic Integrity (S2017-05)
Any instance of academic dishonesty or breach of the standards of academic integrity is serious and students will be held accountable for their actions, whether acting alone or in a group. See policy and procedures S2017-05 Academic Integrity for more information:
https://www.capilanou.ca/about-capu/governance/policies/

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances, are prohibited and will be handled in accordance with the Student Academic Integrity Procedures.

Academic dishonesty is any act that breaches one or more of the principles of academic integrity. Acts of academic dishonesty may include but are not limited to the following types:

Cheating: Using or providing unauthorized aids, assistance or materials while preparing or completing assessments, or when completing practical work (in clinical, practicum, or lab settings), including but not limited to the following:

- Copying or attempting to copy the work of another during an assessment;
- Communicating work to another student during an examination;
- Using unauthorized aids, notes, or electronic devices or means during an examination;
- Unauthorized possession of an assessment or answer key; and/or,
- Submitting of a substantially similar assessment by two or more students, except in the case where such submission is specifically authorized by the instructor.

Fraud: Creation or use of falsified documents.

Misuse or misrepresentation of sources: Presenting source material in such a way as to distort its original purpose or implication(s); misattributing words, ideas, etc. to someone other than the original source; misrepresenting or manipulating research findings or data; and/or suppressing aspects of findings or data in order to present conclusions in a light other than the research, taken as a whole, would support.

Plagiarism: Presenting or submitting, as one's own work, the research, words, ideas, artistic imagery, arguments, calculations, illustrations, or diagrams of another person or persons without explicit or accurate citation or credit.

Self-Plagiarism: Submitting one's own work for credit in more than one course without the permission of the instructors, or re-submitting work, in whole or in part, for which credit has already been granted without permission of the instructors.

Prohibited Conduct: The following are examples of other conduct specifically prohibited:

- Taking unauthorized possession of the work of another student (for example, intercepting and removing such work from a photocopier or printer, or collecting the graded work of another student from a stack of papers);
- Falsifying one's own and/or other students' attendance in a course;
- Impersonating or allowing the impersonation of an individual;
- Modifying a graded assessment then submitting it for re-grading; or,
- Assisting or attempting to assist another person to commit any breach of academic integrity.

Sexual Violence and Misconduct

All Members of the University Community have the right to work, teach and study in an environment that is free from all forms of sexual violence and misconduct. Policy B401 defines sexual assault as follows:

> Sexual assault is any form of sexual contact that occurs without ongoing and freely given consent, including the threat of sexual contact without consent. Sexual assault can be committed by a stranger, someone known to the survivor or an intimate partner.

Safety and security at the University are a priority and any form of sexual violence and misconduct will not be tolerated or condoned. The University expects all Students and Members of the University Community to abide by all laws and University policies, including B.401 Sexual Violence Policy and B.401.1 Sexual Violence Procedure (found on Policy page https://www.capilanou.ca/about-capu/governance/policies/)

Emergencies: Students are expected to familiarise themselves with the emergency policies where appropriate and the emergency procedures posted on the wall of the classroom.