REQUEST FOR CERTIFICATION AS A QUANTITATIVE COURSE

Thank you for your interest in offering quantitative-intensive (Q) courses. Quantitative-intensive courses will help meet will help to meet Simon Fraser University's commitment to General Education, which enhances undergraduate degrees by informing and complementing students' programs of study, encouraging students to develop understandings and skills that equip them for life-long learning, and preparing them to appreciate, critique and contribute ideas and values of diverse, complex, and interdependent local and global communities in an ethical and comprehensive manner.

Completing this form will provide information for assessment by a faculty committee regarding whether your course meets the criteria for Quantitative-Intensive courses. Please contact the Director, University Curriculum and Institutional Liaison (UCIL) at ucildir@sfu.ca if you have any questions about completing this form.

A **QUANTITATIVE** course increases student understanding and appreciation of the creative potential and broad application of mathematical, computational, and statistical methods, or formal symbolic logic, as tools for solving problems and a way of representing, interpreting, and communicating about aspects of a complex world. These courses develop transferable skills in problem solving, critical evaluation, or analysis using data represented in a variety of ways.

Quantitative courses are normally expected to explicitly include some aspect of numeracy. A minimum of 50% of the course grade must be based on quantitative assignments.

EXAMPLES

Examples of Quantitative courses can be found on the General Education Curriculum page here.

Please note, you can answer any of the following questions with screenshots, copying and pasting from Canvas, or by attaching documents. The attached documents can be in any format (ie PDF, word document). A short paragraph is normally sufficient to answer the questions on this form.

COURSE TITLE, NUMBER AND DESCRIPTION:

Course #:   GSWS 399   Course Title: Gender, Sex and Numbers

Frequency of offering (# / year)   1   Average enrollment per offering: 36.4

Please indicate if this course currently has or will have another WQB designation:__No_____

Instructor(s) responsible for the course: __Tiffany Muller Myrdahl_____

**If multiple instructors are responsible for teaching this course, please list them all and include a course syllabus or course outline for each one.

List course pre-requisites: _30 units_____

*Optional: Is this course mandatory or required for any other programs: _Not mandatory, but it is an

elective for the Social Data Analytics minor._____

Please give a one-paragraph description of the content and overall format (lecture, seminar, tutorial, etc.)
of the course (maximum 200 words).

The course is a critical engagement with the production, collection, and analysis of data through a combination of lecture, seminar, independent, and group work. This course examines the *how* and *why* of quantitative data from a feminist perspective, introducing students to quantitative measurements and their uses. Students learn to interpret and evaluate quantitative data through topics like Smart Cities, economic justice, and tools used to address urban liveability (safety, housing, transit). The course focuses on critical quantitative methods, practiced independently and collaboratively, through three components: census data (how to find and analyze it), survey data (how to design, conduct, and analyze it), and statistical concepts and methods.

QUANTITATIVE COURSE RATIONALE

1. A Quantitative course increases student understanding and appreciation of the creative potential and broad application of mathematical, computational, and statistical methods, or formal symbolic logic. In one paragraph, explain how your course does this.

   The course content (lectures, readings, and course activities) includes an emphasis on basic statistical methods: how to calculate summary statistics, how to read and critically evaluate summary statistics and select forms of statistical analysis (logistic regression), and how (and why) to use chi square tests for conducting statistical analyses with small datasets.

2. A Quantitative course develops transferable skills in problem solving, critical evaluation, and/or analysis using data represented in a variety of ways. In one paragraph, explain how your course does this.

The course emphasizes data literacy and critical evaluation of numerical data, especially census data. I teach students how to find and use census data to answer research questions. Often, this is an exercise in helping students understand the limits of census data analysis at the geographic scale of the municipally-defined neighbourhood or Statistics Canada-defined dissemination area. The course also introduces students to the data being developed and deployed within Smart City dashboards and frameworks and citizen-collected data (eg, air quality data). It invites students to consider data sovereignty and ownership when it comes to public data.

3. Quantitative courses are normally expected to explicitly include some aspect of numeracy. In one paragraph, explain how your course does this.

Students are taught the essential components of spreadsheet use and management, including how to set up and use basic formulas to calculate descriptive statistics. The course relies on spreadsheets rather than other statistical programs (like SPSS or R) because the learning curve for spreadsheet programs is less steep and the working expectation is that knowledge of spreadsheet tools is highly translatable across sectors.

In-class activities involving using and analyzing univariate and bivariate data and understanding and performing chi square tests are also a component of this course.

4. Other ways in which this course meets the goals and criteria of a Quantitative course are:

Students spend time in class and with course materials learning how to **represent** and **communicate** quantitative data, as well as common pitfalls of data representation. Course materials also present students with many opportunities to **interpret** various forms of quantitative data from grey literature, academic literature, and datasets like WomanStats.

5. A minimum of 50% of the course grade must be based on quantitative assignments. Please confirm this for your course, and attach 2-3 sample assessments for the committee to help them understand your course.

60% of the course is dedicated to quantitative assignments. 20% is dedicated to a survey assignment (involving design, sampling strategy, and analysis plan including the univariate and bivariate statistics to be calculated based on the design chosen). 40% is dedicated to a Datawalk assignment that involves accessing and identifying relevant indicators from Canadian census data and analyzing them separately and comparatively, where appropriate. Students must produce & analyze relevant statistics, including univariate and bivariate data.

PLEASE SUBMIT A CURRENT OR RECENT COURSE SYLLABUS,

INCLUDING A CLASS SCHEDULE AND GRADING SCHEME WITH THIS FORM.

WITHOUT **DATA** ≠ EQUALITY
THERE IS NO **GENDER** EQUALITY

@Data2X

Image from: https://sdtalks.unssc.org/en/video/54-sd-talks-special-series-on-data-for-sustainable-development-3-big-data-and-the-global-gender-gap-the-promises-and-perils-of-digital-information

COURSE SYLLABUS

GENDER, SEX AND NUMBERS　　　　　GSWS 399, SUMMER 2023

I. WELCOME!

My name is Dr **Tiffany Muller Myrdahl** and I am Senior Lecturer in the Department of Gender, Sexuality, and Women's Studies and in the Urban Studies (graduate) program at SFU. I also serve as the Undergraduate Chair in GSWS, a Teaching Fellow in the Faculty of Arts & Social Sciences, and a member of the Community Engaged Research initiative (CERi) Advisory Board. My research interests focus on cities and urban change: in particular, I'm interested in how people who have historically been left out of city planning & decision-making negotiate cities and work in and with municipalities to make them livable and welcoming places for all residents. You are welcome to call me Tiffany (or Dr Myrdahl, if you prefer a formal title) and my pronouns are she/her.

Originally from Očhéthi Šakówiŋ (Dakota) territory (Minneapolis, US; see native-land.ca), I am an immigrant-settler in these unceded Coast Salish territories, where I work in my personal and professional lives to be a good guest. All of my courses are informed by a commitment to feminist, anti-racist, and decolonial praxis; their contents are ever-evolving as I continue to learn, but they always aim to foreground voices, knowledges, and experiences of those who have been excluded from dominant narratives. It is my hope that course materials and exercises (including exchanges in which *student* knowledges and experiences are shared and valued) will broaden and deepen not only our understanding of course themes, but also for ongoing work dedicated to bringing forth socially-just communities.

The community of learning/work/play of SFU is located on the ancestral and unceded territory of the Coast Salish peoples, including the Musqueam, Squamish, Kwikwetlem, Tsleil-Waututh, Katzie, Kwantlen, and Qayqayt Nations. SFU's commitments to reconciliation are identified here https://www.sfu.ca/reconciliation.html. As members of this community, each of us has responsibility to learn about and engage with practices of reconciliation and decolonization.

It is a privilege to be gathering and learning with you and I look forward to getting to know you this term!

7 QUESTIONS WITH DR. MM

1. *Favourite ice cream?* Cookies and cream.

2. *Undergraduate major?* History & women's studies.

3. *Longest Duolingo streak?* 1214 days & counting.

4. *Favourite way to explore a different town?* Visiting thrift stores.

5. *Brush with fame?* T.R. Knight (*Grey's Anatomy*) was a grade school classmate.

6. *Foolhardy travel?* Driving across Canada, from Alberta to Toronto, in early January with two cats.

7. *Guilty pleasures?* Making playlists and playing pinball.

II.   COURSE OVERVIEW

The elements of the course are:

Weekly in-person meetings, weekly preparatory content + readings and/or videos, podcasts, Excel exercises.

Course participation (in-person, on Canvas as necessary). (10%)

1 researcher narrative (individual activity). (10%)

1 survey research exercise (group activity). (20%)

1 datawalk research project (individual <u>or</u> group project). (40%)

1 end-of-term research reflection (individual activity). (20%)

Course description

In an era when "Big Data" rules, a critical engagement with the production, collection, and analysis of data (of all kinds) is ever important. This course examines the how and why of quantitative data from a feminist perspective. Students will be introduced to quantitative measurements and their uses, especially within social justice movements and policy circles. Students will learn to interpret and evaluate quantitative data through topics like smart cities, economic justice, and tools used to address urban liveability (safety, housing, transit).

The course focuses on critical quantitative methods, practiced independently and collaboratively, through three components:
- statistical concepts and methods,
- survey data (how to design, conduct, and analyze it), and
- census data (how to gather and analyze it).

Learning outcomes

Through these course modules, students will:
1. Examine traditional (Enlightenment-based) frameworks for knowledge production and (extractive) research practice, in order to **understand interventions and alternative frameworks for knowledge production** and knowledge sharing.
2. Learn about **feminist approaches to** (and apprehensions about) **quantitative datasets and measurement**.
3. Understand how to use and explain **basic statistical concepts** and methods.
4. Have **designed a survey instrument** and developed an analysis plan.
5. Be able to **access and analyze census data**.
6. Be able to use an **intersectional feminist lens to interpret and analyze** the role that quantitative data may play in transformative justice.

Class format

1. Weekly 2x in-person meetings, **1:30-5:20 on Wednesdays & Fridays**. These sessions will be split between lecture, large group discussion, and small group breakout (discussion, activities). **In-person attendance is expected.**
2. In-person sessions will include project workshopping and other collaborative group work.
3. Online content includes: Weekly readings and other course materials (lecture notes, videos, podcasts, etc.); participating in online discussion; and maintaining a writing practice for the course activities/assessments.

III. POLICIES & EXPECTATIONS

Email: tmullerm@sfu.ca (or via Canvas)

Classroom: WMC 2200

Lecture/seminar meetings: Wednesdays & Fridays, 1:30-5:20 May 10 – June 16, 2023

Office Hours: There is a virtual office on Canvas and weekly drop-in office hours on Thursdays via zoom or in person. See Module 0 on Canvas. My physical office is AQ 5104B. Reach out to schedule an alternative time.

Course texts
Course materials are available on or linked through Canvas.

Learning Format and Expectations
This is an interactive course and requires student participation.

Please arrive to the in-person sessions having completed the week's preparatory material and prepared for an informed discussion. I expect students to have read the materials and be ready to ask questions, contribute your insights, listen to your peers and me, and take risks that are appropriate to advance learning. I hope that you will approach Canvas discussions in the same spirit of generosity.

In any class, *all members* are responsible for actively producing a generative work space. I expect that we will all work toward developing that work space. The expected conduct in the course reflects expectations of professional conduct in undergraduate studies, including: participation; commitment; respect and consideration for the learning of yourself and others; and active engagement.

Keep in mind that participation implies not only sharing your own insights and, where possible, having a willingness for vulnerability in your learning process, but also holding space and generosity of spirit for others as they share insights and practice their own vulnerability. If you naturally inclined to share, practice sitting on your hands (literally and metaphorically). If you are naturally inclined to remain quiet, practice sharing your voice.

Late assignments
All assignments are due on the date listed on Canvas. However, there is a **two-day grace period for any final* submission**. This means that if the assignment is submitted within two days of the deadline (by 11:59 PM on the second day), there is no penalty for late submission and no need to ask for an extension. *****The exception: the datawalk proposal must be ready for workshopping in class on TBD.

I will accept late papers up to 5 days past the grace period. Late papers – so, papers submitted after the 2-day grace period – receive a 5% penalty per day.

I am happy to work with any student who needs accommodation with deadlines. I have only one criterion: in as much as possible, let's make a plan prior to a deadline. If things come up or you find yourself struggling for whatever reason, please get in touch so that we can make a plan for you to complete the course successfully.

Accessible Learning + Students with Disabilities
If there are circumstances that affect your ability to participate and/or need additional supports to complete written assignments, please arrange a time to discuss your situation with me. It would be helpful for you to contact the **SFU Centre for Accessible Learning** at 778.782.3112 or https://www.sfu.ca/students/accessible-learning.html beforehand.

Academic Honesty and Integrity

Students are expected to adhere to SFU's policies related to academic honesty and integrity, and these are explained in the Academic Integrity links posted in Module 0. You may also refer to the SFU policy t10.02 with respect to "intellectual honesty," and "academic discipline" (www.sfu.ca/policies/teaching), SFU's Code of Academic Integrity and Good Conduct (S 10.01) www.sfu.ca/policies/gazette/student/s10-01.html, and to the Principles and Procedures for Student Discipline (S 10.02) www.sfu.ca/policies/gazette/student/s10-02.html.

I take academic integrity very seriously and have, unfortunately, lots of experience dealing with incidents of academic dishonesty. I have zero tolerance for plagiarism, contract cheating, or other forms of dishonesty in your academic work. *If you have questions about how to accurately cite or attribute credit, it is your responsibility to learn how do this and there are many resources to help you.* See, for example, the library links here https://www.lib.sfu.ca/help/cite-write and the content available through the Academic Integrity office https://www.sfu.ca/students/academicintegrity/what-is-it.html.

Work submitted that is not your own (including, but not limited to, work that is plagiarized, purchased, re-submitted from work done previously by yourself or another student) will not receive credit. If you use artificial intelligence to support your work (including but not limited to Chat GPT), to produce content that will be part of your graded work in the course, you must be transparent about the tools that you use. Undeclared use of the tool/technology will be considered a violation of the academic integrity policy. For example, if you use ChatGPT to assist you in your submission, you must acknowledge the use of the software and document the prompts used to generate the results. Be aware that any tool used will require you to evaluate the output for accuracies and be responsible for making the appropriate corrections. Incidents of academic dishonesty will be reported to the Academic Integrity office.

SFU's **Student Learning Commons** is a great resource to help with academic writing and research development. https://www.lib.sfu.ca/about/branches-depts/slc/writing

Grading Rubric

This course will be graded using the **GSWS Grading Rubric**, available on Canvas.

IV.   ACTIVITIES & ASSESSMENT

Participation (10%)

In class on May 12, we will develop characteristics of A-, B-, C-range work, based on the parameters/opportunities for participation. I will use the content developed in class to provide a rubric on May 17. This rubric will be posted on Canvas. **At the conclusion of the term, by June 19, each student will write a self-assessment (350 words max), assigning themself a grade and justifying that grade based on the criteria listed in the rubric.** A couple of other relevant points:

- I reserve the right to adjust the grade you assign yourself up or down the grading scale based on what I have observed of your participation.
- Because you will be doing self-assessment, I will not assign grades to any individual participation exercises (eg, discussion posts, excel exercises). If you are concerned about my assessment of your participation, I am happy to share a provisional mid-term participation grade with you during an office hours session.

Researcher narrative (10%)

The researcher narrative is a short essay that summarizes and critically engages with one course text while reflecting on previous research training. Assignment criteria and assessment rubric are available on Canvas. Submissions accepted until May 19.

Survey exercise (20%)

Working in a small group of 4 students, you will **prepare a survey, sampling strategy, and analysis plan** to explore the concept of *student well-being*. Class time will be dedicated to completing this exercise; the majority of the work should be completed during class hours (May 26-June 14). Details and instructions are available on Canvas. The group portion of the assignment –worth 50% of the project grade– is **due on June 14**.

The remaining 50% will be an individual grade for completing a one-page structured peer review of one complete survey assignment. This portion of the grade will be due **on or before June 28**.

Survey Assignment

GSWS 399 | Deadline: Submit on or before June 14

[Go to this Sway](#)

Datawalk research project (40%, divided into four sub-parts)

This assignment invites students (individually or in a small group of up to three students) to:
> a) use census data to learn about the demographics of their neighbourhood;
> b) investigate, document, and discuss the qualitative *and* quantitative data points being communicated and collected in the neighbourhood;
> c) put fieldwork – observations, analysis of census data, field notes, documentation – into conversation with course materials in a short analytical paper.

We will spend class time (and Excel exercises) learning the how-tos of census data collection and analysis. I will also share examples of completed datawalks during class time so that students have some models in mind for what makes a good research question and how to compile the materials.

To complete the Datawalk, you need to:
- Formulate a research question.
- Find and use census data for your census tract/s, analyzing at least three variables to examine your research question.
- Document and discuss another set of data points (qualitative or quantitative) of your choosing that is relevant to your research question.
- Use descriptive statistics and univariate and/or bivariate tables to analyze and represent census & observational data.
- Write up your findings and visualize your data (census and other data points), using course materials to support your discussion.

The Datawalk has four graded parts:
1. **The proposal** (15% of *project* grade). The proposal **will be workshopped in class on May 24** so deadline for this is firm (no 2-day flex period).
2. **The 3-minute share** of your working draft findings (10% of the *project* grade, everyone assessed individually) on June 16 (no 2-day flex).
3. The census data and qualitative data analysis (variable selection, summary statistics, univariate and bivariate tables) (25% of the *project* grade, **due on or before June 23**).
4. The essay (argument, discussion and analysis of qualitative and quantitative findings, additional materials such as images or sound recordings) (50% of project grade, **due on or before June 23**).

More details – including sample research questions, assignment criteria, and the assessment rubric – are available on Canvas and here: https://sway.office.com/uBbEC6ItOvRugKg1?ref=Link&loc=play

Datawalk research reflection (20%)

This assignment invites students to reflect on the process of data collection and analysis and producing a research report. Each student should submit their own independently-written reflection of the research practice (regardless of whether you completed the datawalk activity in a group). Your reflection must substantively draw upon course materials (texts, lecture notes, and the like). Your reflection should consider a variety of questions to examine what you learned. You may consider, for example:

- What was the experience of data collection like for you?
- Were you able to apply any of the principles of *Data Feminism*?
- What choices did you make in representing the data, and why did you make these choices?
- What went well, and what was challenging?
- What did you learn in undertaking this project?
- What are the strengths and weaknesses of conducting research with a mixed methods approach?
- After doing this project, how would you describe the relationship between quantitative data and feminist analysis?

Make sure that you answer these (and/or other relevant questions) IN CONVERSATION WITH the course materials. Your personal reflection is important, and *I want to see you thinking through the personal as it relates to what the texts say (and/or what the texts miss)*.

The paper may be up to 1000 words. It may be written in personal voice, and it should use appropriate citation (in-text and bibliography- APA, Chicago, or MLA). It is **due on or before June 28**. Late papers (beyond the 2-day grace period) will be accepted only when a submission plan is made in advance of the deadline. Assessment rubric available on Canvas.

Hints: Use at least three readings, including one or more that engage with the foundational concepts of the course. When you use readings, offer some depth of discussion (rather than simply a passing comment). You are showing me that you read, understood, and can connect the readings to ideas more broadly. Likewise, when you use quotes or paraphrase ideas, make sure you explain why they are important or what they signify. Without doing so, you assume that your reader will take from the passage whatever you took—which your reader cannot know!

MAY-JUNE2023

All readings, videos, podcasts & other course materials are available on Canvas.

May 10-12   Module 1: Why should we care about gender, sex & numbers?
                Introducing descriptive statistics
                The necessity of disaggregated data

May 17-19   Module 2: Reconceptualizing quantitative analysis
                Defining concepts, understanding measurement
                Census data analysis introduction & uses

May 24-26   Module 3: Can statistics serve social justice? Critical survey design introduced.
                Critical participatory quantitative data collection & analysis
                Levels of measurement
                Survey research design
                Using open data portals

May 31-June 2 Module 4: Sampling & survey design
                Sampling essentials
                Survey questions & measurement
                Statistical tests from small samples
                Spreadsheet fundamentals

June 7-9   Module 5: Survey questions, data analysis & data visualization in practice
                Representing data
                Constructing tables, bivariate analysis
                Statistics and surveys

June 14-16   Module 6: The power of (census) data analysis
                Case studies

DEPARTMENT OF GENDER, SEXUALITY, AND WOMEN'S STUDIES

Guidelines for Assigning Grades

The Department of Gender, Sexuality, and Women's Studies has decided to have a uniform grading scheme. This will be used by all instructors who use numbers, rather than letters, when assigning grades. It would be helpful to students to have this grading scheme distributed as part of the course.

Letter Grade	Percent Range	Comments
A+	95-100	Outstanding performance. Represents work of exceptional quality. Content, organization and style all at a high comprehension of the subject and use of existing research and literature where appropriate. Also uses sound critical thinking, has innovative ideas on the subject, and shows engagement with the topic.
A	90-94	
A-	85-89	
B+	80-84	Good performance. Represents work of good quality with no major weaknesses. Writing is clear and explicit and topic coverage and comprehension is more than adequate. Shows some degree of critical thinking and engagement in the work. Good use of existing knowledge on the subject.
B	75-79	
B-	70-74	
C+	65-69	Satisfactory performance. Adequate work. Shows fair comprehension of the subject, but has some weaknesses in content, style and/or organization of the paper. Minimal critical awareness or engagement in the work. Adequate use of the literature.
C	60-64	
C-	55-59	Marginal performance. Minimally adequate work, barely at a passing level, serious flaws in content, organization and/or style. Poor comprehension of the subject, and minimal engagement in the paper. Poor use of research and existing literature.
D	50-54	
F	0-49	Failing work.
FD	0-49	Failed for Academic Dishonesty – this grade can only be assigned by the Department Chair

Displayed boundary: Census tracts
Geographic area selected: 0226.03 [CT] - Burnaby, CY, B.C.
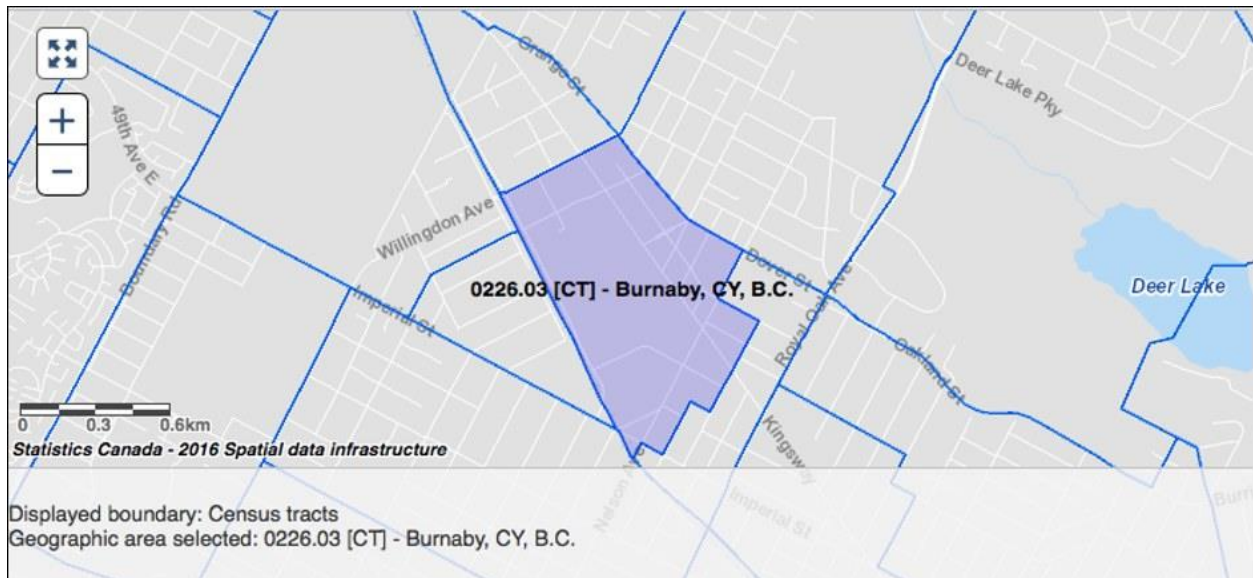
Datawalk Assignment 2023

Telling stories with data.

Take a look around your neighbourhood: what do you see? What do you *not* see? What is familiar to you? And how do the official statistics align (or not) with those familiar sights, sounds, and smells?

This assignment is an invitation to collect and compare different types of data in order to interrogate the stories that data tells - and the stories we can tell with data.

Assignment overview.

Individually or in a small group (of up to three students), you will propose and undertake a project that:

a) uses census data to learn about the demographics of your neighbourhood(s);

b) identifies and documents some qualitative data points in your neighbourhood(s);

c) puts fieldwork –observations, analysis of census data, field notes, documentation – into conversation with course materials in a short analytical paper;

d) represents the quantitative and qualitative data in graphs, tables, images, audio clips, and/or other modes of data representation. These will be discussed in the paper and included in the appendices.

The Datawalk is worth 40% of the course grade. The exercise is divided into *four graded sub-sections*:

1. The **proposal** (15% of *project* grade, **due on May 24**).*

2. The informal **presentation of draft findings** in the style of a 3-minute thesis (recorded or in-person) (10% of the *project grade*, due on June 16).*,**

3. The analytical **essay** (argument, discussion and analysis of quantitative and qualitative findings) (50% of *project* grade, **due on or before June 23**).

4. The **appendices**, including census data analysis (indicator selection, summary statistics, univariate and bivariate tables) and relevant additional qualitative data (images, sound clips, creative representation) and (where relevant) secondary data (25% of the *project* grade, **due on or before June 23**).

*No flex deadline for these assignments: these drafts are needed for in-class activities.

**If Datawalk is completed as a group project, each member of the group should present one portion of the project in their 3 minutes. The informal presentation is graded individually. Presentation can be pre-recorded and shared in class as recorded slide(s) or can be presented in-person.

Examples of Datawalk projects and corresponding research questions

Surrey communities and accessible signage.

Research question: *Does language-accessible signage exist in the communities of Newton and Panorama Ridge (Surrey, BC)?* Census indicators: immigration, income, and language spoken at home. Qualitative data points: non-municipal signage (frequency and density of multi-lingual signs in private businesses and community gathering spaces).

Food accessibility on and adjacent to Hastings.

Research question: How d*oes accessibility to affordable food options change from Hastings Street in Burnaby (Boundary to Sperling) to Hastings Street in East Vancouver (Boundary to Clark)?* Census indicators: housing, age, commuting, ethnocultural background and income. Qualitative data points: food assets (grocery stores, corner stores, and specialty shops).

Transit access and equity for immigrants.

Research question: *How does access to transit differ in immigrant-concentrated neighbourhoods?* Census indicators: population, income, housing, mode of commuting. Qualitative data points: number and concentration of bus stops, navigational finders, and bus stop characteristics.

The physical and non-physical barriers of the Caufeild neighbourhood.

Research question: *How does story of neighbourhood exclusivity depicted by the census data reflected in the physical landscape?* Census indicators: income, housing, population, mobility. Qualitative data points: property design (long driveways, use of setbacks) and demarcations between private properties (human-made barriers like walls and fences and designed natural barriers like hedges).

Educational resources and gentrification.

Research question: *Does gentrification affect access to educational resources?* Census indicators: population, average age, education, and income. Qualitative data points: number, cost, and frequency of programming in public and private educational resources (including libraries, learning centres, out-of-school tutoring).

1 - "The words don't fit the picture" public art at the Vancouver Public Library. Photo taken by instructor.

Step 1: The proposal.

Submit a proposal that **drafts out your research question and sources of data**. Your proposal does not tie you to these things – you may shift directions as you undertake the project. However, you should have a well-reasoned idea for the project elements laid out in your proposal.

Your proposal **may be up to 1000 words and should identify**:

a) A working draft of your research question,

b) The census tract/s you will explore, and the indicators you intend to analyze from the census tract/s.

c) The observational data you intend to document.

Tell me about the purpose of your research and why you're interested/excited to investigate this question.

If you plan to **work with a partner or in a small group**, the proposal should be submitted together.

This is **due on May 24**. You may submit it in hard copy in class or via Canvas. You need to have a working draft with you for the class workshop. As noted: *there is NO flex deadline for this assignment*. Late submissions will be accepted within 5 days of the deadline and are subject to the late penalty.

Step 2: Select & analyze the census data.

A critical element of this project is to **identify relevant indicators** from the census data and analyze them: separately, in relation to one another, **and/or** in relation to other census tracts or the municipality as a whole. Here, **"relevant"** is an important term: you need to determine which of the indicators available to you in the census data are best to answer your question.

You should **select at least three indicators to analyze and discuss**.

At least **one indicator** should be analyzed **across one or more census periods** (this is longitudinal analysis: for instance, compare one indicator in 2016 and 2021.)

Then, consider **whether you want to compare these indicators** across place or different type of geography. You could put these indicators in comparison with the same variables in **another census tract** (or in your city or province). You may also want to look at **relevant census data available from your municipality**; in many cases, cities have census data broken out *by neighbourhood or other geographies* that are not available through the Statistics Canada website. I'm happy to try to help you track down city-specific data. *NOTE: There is no requirement to undertake a geographic comparison!* Examining one census tract or similar scale is enough by

When you select the **relevant indicators**, ask yourself: Do the indicators make sense for my research question? *Are there other indicators that would serve as better indicators of the situation I'm examining?*

Expectations of your quantitative data analysis:

- **Relevant descriptive statistics for the indicators you select,**

- **Analysis of at least one form of univariate (one variable) data,**

- **Analysis of at least one set of bivariate (two variables) data.**

The quantitative data should be available in two places in the final submission: *it should be discussed in the essay and it should be represented in the appendices.*

There is no required number of the statistics, univariate, or bivariate analyses, except that you should **have at minimum one of each type**. Pay attention to course materials that discuss the logic of tables in bivariate and multivariate data *(spoiler: make sure that you're setting them up and reading them correctly)*. **Use excel or google sheets to organize and calculate. Include excel sheets as appendices, but you may also include (screenshot) charts and tables into your essay.**

Step 3: Select & analyze the qualitative data.

Census data gives us one set of information about our communities. To get a more holistic picture of what is happening on the ground, we can consider **what the census data tells us in conjunction with, or in relation to, other data points: specifically, observational data**. The process of collecting and analyzing these additional data can make visible what we *can and can't learn from quantitative data*, and how on-the-ground observation can help to flesh out a theory.

The data you collect will depend entirely on the project's focus and argument. **Examples of observational data** include:

-Breakdown (by number and type) of **food outlets** in a census tract;

-Number, type, and description of **transit stops** (with and without benches, shelters);

-Typology of **privacy landscaping** (hedges, gates, underbrush);

-Types and characteristics of **noise pollution** at different times of the day;

-Counts of **park uses**;

-Examples of **defensive architecture**, and so on.

The list is endless. As you may note, the *observational data may be qualitative* (descriptive: for instance, descriptions of different types of stores or services in a neighbourhood) *and it may be quantitative* (you may want to quantify the number of streets without sidewalks, or different types of park uses). Both forms of representation can be valuable; it's up to you to determine how best to show this data.

As with census data, you may want to *analyze these data points separately and in relation to one another*, as well as **in relation to the census data**.

Step 4. Put the pieces together.

Write your **essay of up to 1200 words** that answers your research question by telling a story with data. Built into this discussion should *a select but substantive mention* of course materials.

An example:

Let's say your focus is on urban human-animal relations and your research question is about bird sighting and bird song. Your argument about bird sightings and bird song is a story that you explore and share through the data you access, collect, and analyze. Your **census data** could include densification (population growth in an area over time), or housing type (areas with apartments may have more noise pollution that makes birds more difficult to hear), and journey to work (denser areas may have more cycling and pedestrianism, which may facilitate hearing bird songs but only when outside the home). Your **observational data** focuses on the presence (or absence) of birds (quantified by type, time of visit) and the soundscape of the birds in the neighbourhood. Pictures of the birds and recordings of the soundscape are good examples of observational data here, and you might find other relevant secondary data on Canadian birder websites or Metro Vancouver parks or wildlife websites. Both forms of **data should be represented through graphs, tables, and images or other relevant mode**; a selection of these can be *embedded in your essay* and the *complete selection should be included in your appendices*. Your select but **substantive discussion of course materials** references the challenge of mixed methods as highlighted in Module 5.

Your complete final submission should include: the essay and the appendices, and a self- and peer-review if you worked with a partner or group.

Essay: up to 1200 words. In-text and bibliography required; use APA, MLA or Chicago style. You will find citation style guidelines for census data [here].

Appendices:

- Data compiled and analyzed in Excel or google sheets;

- Field notes, sound clips, embedded videos;

- A basic map of key sites. Keep data private: de-identify (i.e., vicinity is more important than exact location) where necessary. Map can be hand-drawn or screen-captured or artistically rendered.

Miscellany

We will spend class time:

- Reviewing examples of previous datawalk exercises;

- Brainstorming topics on May 12 & turning topics into research questions on May 17;

- Workshopping proposals on May 24;

- Sharing a 3-minute version of working drafts on June 16.

See me in office hours for extra help with: developing research questions, selecting census indicators, brainstorming observational data points, analyzing and representing your data.

You are welcome to run draft material by me at any time. If you want feedback on your final draft, you need to submit it by June 16.

Important additional notes about finding & using quantitative and qualitative data! Double click (expand) each card.

There is a lot of interesting **open data** (secondary data) available that you are bring into conversation with census data. See, for example:

https://www.icbc.com/about-icbc/newsroom/Pages/Statistics.aspx

https://communityinformationtool.gov.bc.ca/cit-dashboard/home

https://catalogue.data.gov.bc.ca/

https://www.charitydata.ca/

http://communityhealth.phsa.ca/

https://www.surrey.ca/services-payments/online-services/open-data

https://opendata.vancouver.ca/pages/home/

Keep in mind: open data **should be in addition to, not instead of, census data**. Also, if you use open data, you must be able to discuss *gaps in data/ scale of data* in your analysis—how does the data fit together, or not?

Make sure that your **quantitative data** makes sense in your discussion. When we read census data of a neighbourhood we're familiar with, we often infer information because the data works in relation to what we already know. When we report, however, we need to make those inferences explicit and **convey that knowledge to the reader**. *This is the kind of feedback I give when the quantitative data requires more context:*

"The figures you present require more information: your discussion of education level can only be interpreted if you provide info about the total population numbers. Otherwise, it's impossible to discern the significance of education levels."

As you collect **observational data**, take detailed notes about these data points and take care to **translate those notes to a reader who is unfamiliar with this set of data**. Consider:

- What do your observations tell you?

- What phenomenon does this observational data make visible?

Document the observational data with notes, pictures, audio recording, or other relevant strategy. Remember that observations can illustrate the mundane, the exceptional, the range of types of data points, or some other criteria that you determine to be important. Keep in mind that **the absence of data (or some expected element) can be just as notable as its presence**.

Those who work in partners or small groups for this assignment need to submit a self- and peer-review. Like this portion of the survey assignment, the self- and peer-assessment should indicate the effectiveness of the group work, the duties of each group member, the frequency of meetings, and how you would grade each student (including yourself) for their effort and work contributed. Please get in touch with me earlier rather than later if you run into challenges with group work.

Student name	Role played	Duties performed	Quality + quantity of communication	Percent or letter grade for effort and work contributed

Assessment rubric

Evaluation criteria (scale: marginal, satisfactory, strong, excellent)

- Well-supported argument illustrated by data

- Meets census data criteria

- Accurate use of statistical, univariate & bivariate analysis

- Incorporated relevant observational data

- Clarity of writing incl. structure, logical flow, style, grammar, spelling

- Accurate citation

- Originality (evidence of academic dishonesty)

- 3-minute presentation provided a clear set of working findings

- Self- and peer-assessment (for partner/groups).

Survey Assignment

Background information

Working in a small group of 4 students, you will **prepare a survey, sampling strategy, and analysis plan** to explore the concept of ***student well-being***. Class time will be dedicated to completing this exercise; the majority of the work should be completed during class hours (May 26-June 14).

The first thing this exercise requires is for your group to determine how you want to define "student well-being". You can take this in many different directions: are you interested in the overall undergraduate SFU student body, or are you interested in target student populations? Would you want to compare results between two (or more) different student populations? Are you interested in assessing what students know about existing resources? Are you interested in examining well-being in specific student experiences (eg, in the classroom, in student life, within first year experience, etc.)? Any of these directions (or others!) could elicit fruitful results. **Your job** is to choose a direction that is of interest to you, put that into the form of a research question, explain your rationale, and design a survey instrument, sampling strategy, and analysis plan that supports your ability to answer your research question. You will not be conducting the survey, which gives you freedom in your research design.

As a group, you will develop:

- **a rationale** for the direction you take (explaining how you understand the concept of student well-being and how you intend to explore that concept with your survey)

- a short **questionnaire**,

- a **sampling strategy**, and

- an **analysis plan**.

- To encourage everyone in the group to communicate and contribute, each individual member of the group will be responsible for writing a brief **self & peer assessment**.

As a group, you will also have an opportunity to review other groups' work in a **structured peer review**.

The in-class group work (which group members can contribute to online as needed) will be worth 50% of the project grade. The remaining 50% will be an individual grade for completing a one-page structured peer review of one complete survey assignment. This portion of the grade will be due on or before June 28.

Instructions

On May 26, we will begin this project with an in-class idea generation session about the concept "student well-being". Students will self-designate into interest groups or be assigned. Small groups should be 4 students. Together, you will determine how to define and examine "student well-being" and create:

On May 31/June 2

a) A **rationale** explaining your research question and concept definition.

b) A **sampling strategy.**

Part of June 2 will focus on a structured peer review of one other group's work.

On June 7/9

c) A **short questionnaire.**

d) An **analysis plan**.

Part of June 9 will focus on a structured peer review of one other group's work.

On June 14, you will have class time to complete your survey project.

a) The **research question and rationale**.

Here, you explain how you define "student well-being" and discuss what your survey aims to investigate. What do you want to find out by surveying a population? This should be 1-3 paragraphs and can include statements like:

- "Our goal is…" "We want to understand…" "With our survey, we aim to…"

(Hint: this is an application of the work we'll do about identifying a concept and then measuring that concept. Your analysis plan should line up with these goals!)

b) The **sampling strategy** identifies which strata/s of the SFU student population you aim to survey, how you aim to access this population, and why you have chosen this population. Your sampling strategy should **draw upon course materials** to:

Explain how you define the population for your study,

- Explain in detail how you will identify, select and recruit respondents.

- Consider what sampling problems may occur as you move from the theoretical population, to the study population, to the sample frame, to the sample and to the effective sample.

- Suggest strategies for addressing sampling problems to ensure that your effective sample is representative of your theoretical population.

- Identify an appropriate size for your effective sample.

This section can be up to 750 words.

c) The short **questionnaire** should be answerable in 5-10 minutes and should:

- Specify its delivery format (in-person, telephone, postal, online or some other delivery format, and why?)

- Use appropriate closed and open-response questions.

- Include some descriptive demographic questions to assess the representativeness of the sample.

- Pay particular attention to the logical flow of the questionnaire.

There is no specific word count or page length for this section.

d) The **analysis plan** should:

- Indicate how you plan to analyze and present the data collected.

- Include the univariate and bivariate statistics you would calculate.

- Identify what tables, charts and figures you would create. You should create two different examples (with mock data) to illustrate how you would represent your data.

Supplement your discussion with a summary table to present this information. Examples of summary tables will be shared in class.

This section can be up to 500 words plus tables and graphs.

I will also ask you to complete a **self- and peer-reflection**, which should indicate the effectiveness of the group work, the duties of each group member, the frequency of meetings, and how you would grade each student (including yourself) for their effort and work contributed.
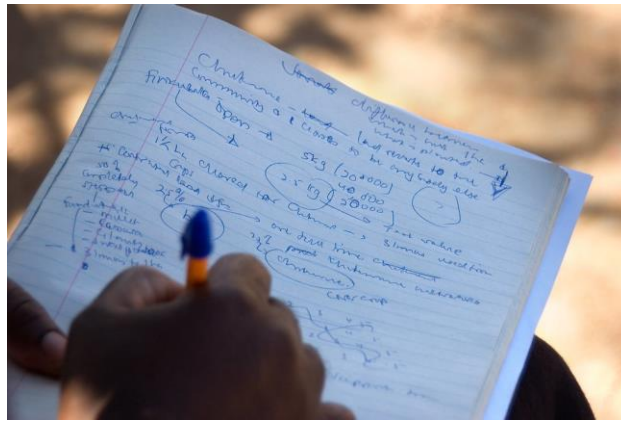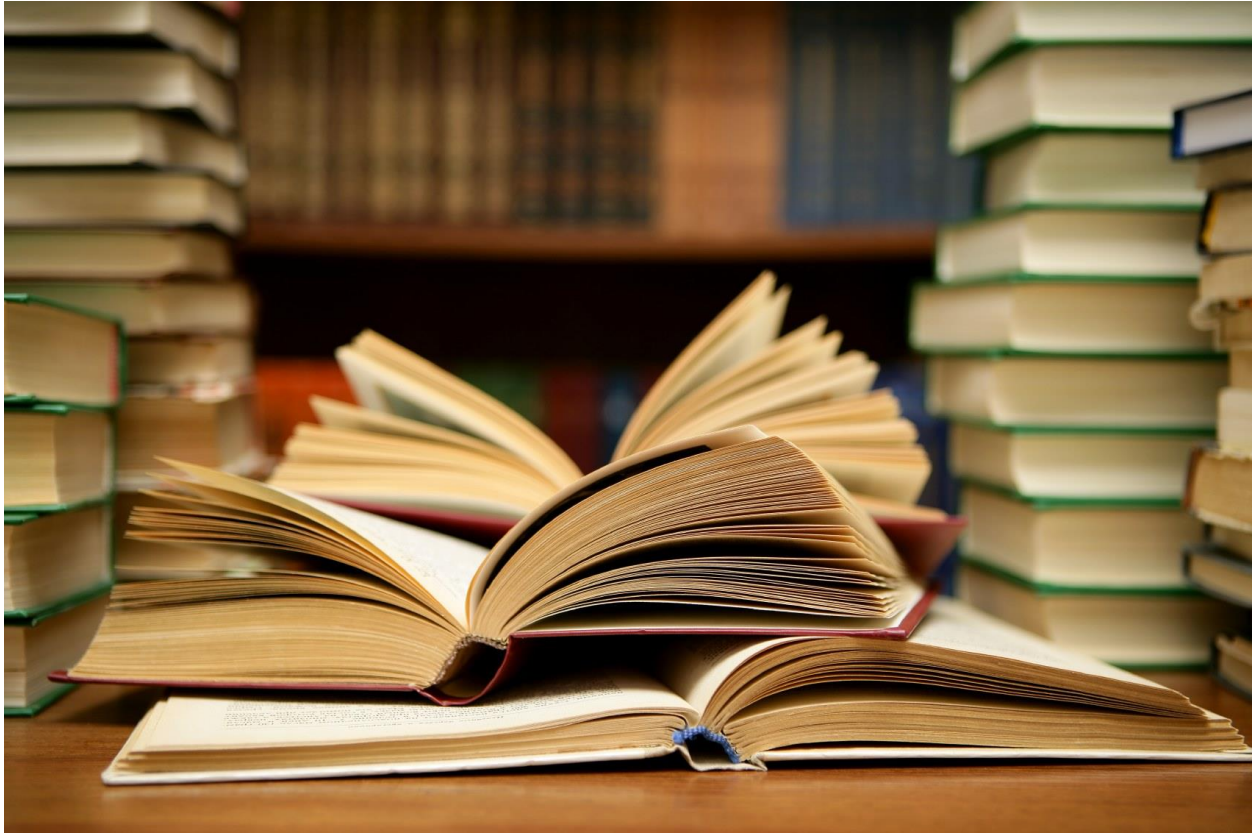

1 - The self+peer reflection will look like this:

Overall comments about effectiveness and quality of group work experience, frequency of meetings, forms of communication, other relevant information. For each student, including yourself, identify and describe:

Student name	Role played	Duties performed	Quality + quantity of communication	Percent or letter grade for effort and work contributed

2 - Sample self+peer reflection

Notes & Tips

Readings and lecture notes offer in-depth discussion of survey design, delivery, and analysis. We will discuss **models and examples of analysis plans** and discuss the benefits and drawbacks of choices made in terms of content and data representation.

Citation style: Use in-text and a bibliography in APA, MLA, or Chicago style.

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Grading rubric. Items 1-4 are evaluated on the scale:

marginal - satisfactory - strong - outstanding

1. Questionnaire
2. Sampling strategy
3. Analysis plan
4. Language, syntax, coherence of argument
5. Reflection [for accountability]
6. On time submission (within 2-day grace period)
7. Originality (no evidence of plagiarism)

Self and peer assessments are collected to encourage accountability to the group. The grade assigned to the group project is the basis for each group member's grade. However, each group member is graded on their individual performance within the group, so individual student grades may be adjusted up or down based on self and peer assessment.