School of Social Work
FACULTY OF ARTS

The UBC School of Social Work acknowledges that we are located on the traditional, ancestral, and unceded territory of the xʷməθkʷəy̓əm (Musqueam) people. The School logo designed by Ray Sims, a member of the Musqueam Nation, depicts Raven transforming into a human child. Raven is seen to be the most magical of all beings with the ability to shapeshift into anything at will. The most frequent form Raven takes is that of a human. Through adventures, Raven creates much of what we have around us. Humans learn much and acquire much knowledge of life and living through learning the orals associated with Raven's adventures and misadventures, for Raven intentionally, as well as inadvertently, has created much by making mistakes.

School Vision: *Building upon a foundation of social justice and an ethic of care, we are a community of learners actively engaged in the development of critical, transformative knowledge for social work practice.*

MSW Mission

The MSW program offers an accessible, advanced professional degree focused on social work practice in the fields of child and family welfare, health and social care, and international and social development, using a social justice lens. The purpose of this MSW program is to prepare our graduates to be competent social work professionals, equipped with state-of-the-art knowledge and skills, a critical analytic lens, and a social justice orientation.

COURSE INFORMATION

Year/Term	Winter Terms 1-2, 2022-23; Sep 06, 2022 to Apr 13, 2023
Course Title	SOWK 553C: Quantitative Methods in Social Work Research
Course Schedule	Fridays, 10:00 AM to 1:00 PM
Course Location	Room 222, School of Social Work

Instructor	**Office Location**	**Office Phone**	**e-mail address**
Sheila Marshall	School of Social Work, 336	604-822-5672	Sheila.Marshall@ubc.ca
Office Hours	Fridays 1:00 to 2:00 PM or by appointment		

Prerequisite and/or Corequisite

There are no pre- or co-requisites for this course.

Course Description

This course provides an overview of methodologies that can be used in social work inquiry *with a focus on quantitative methods.* Students will learn how to design a study, conduct analyses of data, and interpret appropriately research findings.

Course Structure and Learning Activities

Class discussions will be complemented by individual and group exercises.

Learning Outcomes

- Familiarize students with a variety of approaches to social work research.
- Introduce students to processes, methods and issues in qualitative and quantitative inquiry.
- Strengthen abilities to critically read and evaluate research designs and findings of quantitative and qualitative studies.
- Facilitate skills in identifying questions relevant to social policy, social service programs and social work practice that can be addressed using quantitative designs and analysis.
- Enhance skills in identifying ethical issues in conducting systematic inquiry, particularly in relation to marginalized groups.

Required Textbooks and Learning Materials

Batchelor, A. (2020). *Statistics in social work: An introduction to practical applications*. Columbia University Press. [available through the UBC library]

Faherty, V.E. (2008). *Compassionate statistics: Applied quantitative analysis for social services*. Sage Publications. [available through the UBC library]

Gorard, S. (2013). *Research design: Creating robust approaches for the social sciences*. Los Angeles, CA: Sage. [available through the UBC library]

Osborne, J. (2017). *Regression & linear modeling*. SAGE Publications, Inc. https://dx.doi.org/10.4135/9781071802724 [available through the UBC library]

Navarro, D.J., & Foxcroft, D.R. (2022). Learning statistics with Jamovi: A tutorial for psychology students and other beginners. (Version 0.75). DOI: 10.24384/hgc3-7p15 [Available from url: http://learnstatswithjamovi.com]

IBM SPSS through UBC's central Kivuto / OnTheHub web store - https://ubc.onthehub.com

Additional resources are indicated in the Course Schedule below or located in CANVAS.

Course Schedule

Term 1

Before first class: Retrieve and read a research article (not a review paper) on a social work topic of your choice. Have the article ready for discussions during the first three sessions.

SESSION 1:	September 9, 2022
TOPIC:	**GETTING STARTED: THINKING ABOUT THINKING**
READINGS:	Moon, K., & Blackman, D. (2014). A guide to understanding social science research for natural scientists. *Conservation Biology*, *28*, 1167- 1177. doi: 10.1111/cobi.12326 Attia, M., & Edge, J. (2017). Be (com) ing a reflexive researcher: A developmental approach to research methodology. *Open Review of Educational Research*, *4*, 33-45.
SESSION 2:	September 16, 2022
TOPIC:	**RESEARCH DESIGNS**
READINGS:	Chapters 1 and 2 of Gorard (2013)
SESSION 3:	September 23, 2022
TOPIC:	**MATCHING QUESTIONS AND RESEARCH DESIGNS**
READINGS:	Chapters 3 to 5 of Gorard (2013) Navarro & Foxcroft, sections 1.1.1 and 1.2
NATIONAL DAY FOR TRUTH AND RECONCILIATION, no session September 30, 2022	
SESSION 4:	October 7, 2022
TOPIC:	**ETHICS IN RESEARCH**
READINGS:	TCPS 2—2018 *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (skim chapters 12 and 13) available through: http://www.pre.ethics.gc.ca/eng/documents/tcps2-2018-en-interactive- final.pdf Whetung, M. (Nishnaabeg), & Wakefield, S. (2018). Colonial conventions: Institutionalized research relationships and decolonizing research ethics. In E. Tuck, K.W. Yang, & L.T. Smith (Eds.) *Indigenous and Decolonizing Studies in Education* (pp. 168-180). Routledge. Chapter 13, Gorard

	Charles, G. (2017). Beyond ethics and evidence: Learning to look at the intended and unintended consequences of our actions. *Child & Youth Services, 38*, 108-125. doi: 10.1080/0145935X.2017.1297200
SESSION 5:	October 14, 2022
TOPIC:	**CONSTRUCTS & VARIABLES**
READINGS:	Finkelstein, L. (2003). Widely, strongly and weakly defined measurement. *Measurement*, *34*, 39-48. Navarro & Foxcroft 2.1 to 2.26
SESSION 6:	October 21, 2022
TOPIC:	**MEASUREMENT & VALIDITY EVIDENCE**
READING:	Bandalos, D.L. (2017). Measurement Theory and Applications for the Social Sciences. New York, NY: Guilford Press. Chapter 11 only.
SESSION 7:	October 28, 2022
TOPIC:	**VALIDITY EVIDENCE CONTINUED**
READING:	Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. *American Psychologist, 50*, 741-749. Recommended: Shankar, S., St-Onge, C., & Young, M. E. (advance online, 2022). When I say…response process validity evidence. *Medical Education*, *56*(9), 878- 880. https://doi.org/10.1111/medu.14853
SESSION 8:	November 4, 2022
TOPIC:	**RELIABILITY EVIDENCE**
READINGS:	If reliability is new to you, read Navarro & Foxcroft section 2.3 Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53–55. Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: an overview and tutorial. *Tutorials in Quantitative Methods for Psychology*, *8*, 23-34.
WATCH:	Reliability analysis in SPSS (Cronbach's alpha): https://www.youtube.com/watch?v=OdIhhtg-3LE&ab_channel=BrunelASK
MIDTERM BREAK, no session November 11, 2022	
SESSION 9:	November 18, 2022

TOPIC:	SAMPLING & RECRUITMENT
READINGS:	Chapter 6, Batchelor (2020) Chapters 6 and 7, Gorard (2013) Manohar N., MacMillan F., Steiner G.Z., Arora A. (2019) Recruitment of research participants. In P. Liamputtong (Ed.), *Handbook of Research Methods in Health Social Sciences*. Springer, Singapore. https://doi.org/10.1007/978-981-10-5251-4_75
SESSION 10:	November 25, 2022
TOPIC:	TIMING AND SEQUENCE IN DESIGNS
READINGS:	Chapter 8, Gorard Wu, A. D., & Zumbo, B. D. (2008). Understanding and using mediators and moderators. *Social Indicators Research: An International Interdisciplinary Journal for Quality of Life Measurement, 87,* 367–392. **Optional sections of Wu & Zumbo: mediated moderation & moderated mediation.**
SESSION 11:	December 2, 2022
TOPIC 1:	CONTROLLED INTERVENTIONS; ALTERNATIVES TO TRIALS
READINGS:	Chapters 9 and 10, Gorard
TOPIC 2:	CHALLENGES TO VALIDITY OF DESIGN
READINGS:	Navarro & Foxcroft, section 2.7 Chapter 11, Gorard

Term 2

SESSION 1:	January 13, 2022
TOPIC 1:	DATA MANAGEMENT, SETTING UP CODEBOOKS
READING:	Burchinal, M. R. & Neebe, E. (2006). I. Data management: recommended practices. *Monographs of the Society for Research in Child Development, 71*: 9–23. doi: 10.1111/j.1540-5834.2006.00402.x
WATCH:	Variable types and labels in SPSS https://www.youtube.com/watch?v=_zFBUfZEBWQ and https://www.youtube.com/watch?v=Kp_js1i6xwE
TOPIC 2:	CREATING SCALE SCORES

WATCH:	Creating scale scores in SPSS https://www.youtube.com/watch?v=GY8w4cTfA4o
SESSION 2:	January 20, 2023
TOPIC:	**DESCRIPTIVE STATISTICS: CENTRAL TENDENCY, VARIABILITY**
READING:	Chapters 3 & 4, Batchelor, 2020
WATCH:	Descriptive statistics and histograms in SPSS https://www.youtube.com/watch?v=1Qt8HxsoYLI&list=PLRV_2nAtkiVONsDm5nKgvOQKLsveVP97j&index=2 https://www.youtube.com/watch?v=e-CehMFn_lY&list=PLRV_2nAtkiVONsDm5nKgvOQKLsveVP97j&index=3 https://www.youtube.com/watch?v=06QOdHv68pM&list=PLRV_2nAtkiVONsDm5nKgvOQKLsveVP97j&index=7
SESSION 3:	January 27, 2023
TOPIC:	**PROBABILITY, HYPOTHESIS TESTING**
READING:	Navarro & Foxcroft, section 7 Chapter 8, Faherty, 2008 Amrhein, V., Greenland, S., & McShane, B. (2019). Scientists rise up against statistical significance. *Nature*, *567*(7748), 305–307. https://doi.org/10.1038/d41586-019-00857-9
SESSION 4:	February 3, 2023
TOPIC:	**ASSOCIATIONS BETWEEN VARIABLES: CHI-SQUARE**
READING:	Chapter 9, Faherty, 2008
WATCH:	Chi-square in SPSS https://www.youtube.com/watch?v=q0XkYOG0trc
SESSION 5:	February 10, 2023
TOPIC:	**ASSOCIATIONS BETWEEN VARIABLES: CORRELATION**
READING:	Chapter 5, Batchelor, 2020
WATCH:	Correlation in SPSS https://www.youtube.com/watch?v=gOcFRO7DFZI
SESSION 6:	February 17, 2023

TOPIC:	**LINEAR REGRESSION**
READING:	Chapter 3, Osborne (2017)
WATCH:	Simple linear regression in SPSS: https://www.youtube.com/watch?v=6xcQYmPDqXs
MIDTERM BREAK, no session February 24, 2023	
SESSION 7:	March 3, 2023
TOPIC:	**MULTIPLE LINEAR REGRESSION**
READING:	Chapter 8, Osborne (2017)
WATCH:	Multiple regression in SPSS and regression diagnostics: https://www.youtube.com/watch?v=ueNrP5TyZaE
SESSION 8:	March 10, 2023
TOPIC:	**CATEGORICAL PREDICTORS AND MODERATION**
READING:	Review moderation in: Wu, A. D., & Zumbo, B. D. (2008). Understanding and using mediators and moderators. *Social Indicators Research: An International Interdisciplinary Journal for Quality of Life Measurement, 87*, 367–392. Chapter 9, Osborne (2017)
SESSION 9:	March 17, 2023
TOPIC 1:	**COMPARING TWO MEANS: INDEPENDENT SAMPLES T-TESTS**
READING:	Chapters 12, Faherty (2008)
WATCH:	Independent samples t-tests in SPSS https://www.youtube.com/watch?v=-qGFZFOQx7Q
TOPIC 2:	**COMPARING MEANS ACROSS TIME: PAIRED SAMPLES T-TEST**
READING	Chapter 11, Faherty (2008)
WATCH:	Paired samples t-test in SPSS https://www.youtube.com/watch?v=vII22ZnFOP0
SESSION 10:	March 24, 2023
TOPIC:	**COMPARING SEVERAL MEANS: ANOVA**
READING:	Chapter 14, Faherty (2008)

WATCH:	Oneway ANOVA in SPSS https://www.youtube.com/watch?v=rS3k8ONVN-o
SESSION 11:	March 31, 2023
TOPIC:	**Repeated Measures ANOVA**
READING:	Go to this website: https://www.discoveringstatistics.com/statistics-hell-p/porus-comparing-means/repeated-measures-designs/ Read the handouts on the calculations behind one-way repeated measures ANOVA and doing repeated measures ANOVA using IBM SPSS Statistics
WATCH:	Repeated measures ANOVA in SPSS https://www.youtube.com/watch?v=6jfXBtN25u4

Assignments

TERM 1 OVERVIEW

Assignment 1: Complete Tri-Council (2018) on-line tutorial module
Assignment 2: Creation and assessment of a self-report measure: 20%
Assignment 3: On the same research topic, generate two different types of designs and describe rationale for decisions:
    Design #1: knowledge generation, descriptive design: 15%
    Design #2: evaluation of an intervention: 15%

TERM 2 OVERVIEW

Assignments 4 to 8 are elements of a small research project.
Assignment 4: Codebook for your data set: 5%
Assignment 5: Methods section of the manuscript: 5%
Assignment 6: Plan for analysis: 5%
Assignment 7: Results: preliminary analyses of data, results of analysis: 5%
Assignment 8: Interpretation of results; description of limitations, implications: 5%

Assignment 9: Decision Tree (not part of research project): 25%

All written assignments must be in American Psychological Association (APA) format with 12-point font, double spaced, and 1" margins. Where referencing is needed, use APA referencing style. Style guides are available through the UBC library at **https://guides.library.ubc.ca/c.php?g=707463&p=5035495**.

ASSIGNMENT 1: DUE OCTOBER 7, 2022

Ethics Tutorial.

This assignment is aligned with *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2)* guidelines and UBC ethics review boards' expectations that all people applying for ethical review and working with data complete the tutorial. A certificate is provided upon successfully completing this tutorial. Submit the certificate by uploading an electronic copy into Canvas. This tutorial must be completed prior to being given access to anonymized data for practice during class and for class assignments.

Complete the on-line tutorial course at: https://tcps2core.ca/welcome

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ASSIGNMENT 2: DUE NOVEMBER 18, 2022

Creation (or modification) & initial assessment of a self-report measure.

Activities:
- Select a topic of interest which you will use to create a self-report measure or modify an existing measure.
- Do a brief literature search on the topic. Use existing literature to help you define the construct you would like to assess.
- Determine whether you are going to assess quality or quantity of the construct.
- Design the measure (this includes instructions to users) or modify an existing measure.
- Document your plan for testing response processes (use assigned reading for support).
- Test response processes with two class members. During the testing, document responses for reporting.
- Adjust the measure according to responses, if needed.

Reporting:
In essay format (using APA style) and using course readings, describe the following

- Briefly introduce the topical area.
- Define the construct using theory.
- Describe the philosophical underpinnings of the construct (and therefore measurement).
- Describe what aspects of the construct are to be assessed in the measure.
- Describe how you designed the measure or modified an existing measure.
    - o Include instructions, all parts of the measure, the way that the measure is administered (e.g., paper and writing instrument; computer), and any other details necessary for other researchers to be able to use the measure such as how the measure is scored.
    - o Briefly describe your decision-making regarding assigning numbers to responses.
- Define the type of response process you planned to use and how it relates to validity evidence (use course readings for guidance).
- Describe your plan for testing response processes.
- Report the results of testing response processes.
- Describe any limitations of the testing of response processes.
- Describe any adjustments to the measure you made after testing for response processes.
- Write a conclusion regarding the development and evaluation of the measure. Use course readings on validity and measurement to evaluate what you now know about the measure and what you might do to improve it in the future.

(In an Appendix, include a copy of the measure which can be referenced in your paper.)

ASSIGNMENT 3: DUE DECEMBER 9, 2022

Research Designs.

Activities:
Select a topic of interest to you. Generate two different types of designs addressing the topic following readings in Gorard (2013).
The first design will be for knowledge generation (15%). The second design will evaluate a social work intervention (15%).

Writing (essay format):
Begin the paper with an introduction to the topic.
Include in descriptions of each design (write the descriptions of each design sequentially in the paper just like a journal article):
Aim for the research.
Research question or hypothesis.
Design.
Rationale for the design
Sampling strategy.
Way(s) of collecting the data (i.e., measures, interviews or observations you will use).
Procedures.
Ethical considerations.

Conclude the paper with a reflection on what you have learned from constructing these two different types of studies.

Assignments 4 to 8 are elements of a research project. You will be provided with a data set you will use to use to answer research questions and hypotheses.

ASSIGNMENT 4: DUE JANUARY 27, 2023

Codebook.

Put together a codebook for your data set following the example in Burchinal and Neebe (2006) and the example provided in class. You will need to research the background information on variables to document the source of variables and any other pertinent information. You will also need to conduct analyses to document the reliability of any scales in the data set.

To analyze reliability of any multi-item scales using SPSS:
https://www.youtube.com/watch?v=2gdorgugwK8

ASSIGNMENT 5: DUE FEBRUARY 17, 2023

Methods.

Methods sections of journal articles include: sample description, measures, and procedures. This assignment should look like something out of the APA manual or a tier-1 journal. Use (a) the data set to describe the sample, and (b) codebook to write the measures section. Information about procedures will be provided with your data set.

ASSIGNMENT 6: DUE MARCH 17, 2023

Plan for analysis.

Plan for analysis should describe the technique used to answer the research question and why that is the technique of choice. Describe how you will conduct the analysis.

Link the type of analysis to the hypothesis or research questions and the type of data used in the analysis.

ASSIGNMENT 7: DUE MARCH 24, 2023

Results.

Results section of your study is in two parts:
Description of preliminary analyses of data, including tables, and checking of assumptions.
Results of analysis should include reports in text or in tables but not both.

ASSIGNMENT 8: DUE APRIL 7, 2023

Interpretation.

Interpretation of results; description of limitations of the study design, measures used in the study, description of strengths of the study design and measures, implications for future research.

ASSIGNMENT 9: DUE APRIL 14, 2023

Decision Tree.

The decision tree is **not** part of your research project. The decision tree summarizes Term 2 analytic procedures you have learned.

Design a decision tree which includes all of the statistical strategies (including descriptive statistics) covered in this course. Include decisions regarding:
a) Type of data,
b) Type of strategy, and the assumptions of data when using the strategy
c) When to change strategies if assumptions are not met.

Assignment Submission Process

All assignments are to be submitted to Canvas. Assignments will be returned through Canvas.

Students must complete all assignments indicated for this course to receive a final grade in the course.

Students needing an extension for any assignment may, at their own discretion and no discussion with the instructor, take up to one additional week. Use of the extension does not impact the grading of the assignment.

School/Course Policies

Attendance

The attendance policy is in the student handbook on page 11: https://socialwork.ubc.ca/current-students/.

The School considers class attendance to be an essential component of integrated learning in professional social work education. Therefore, regular attendance is required in all social work courses. Instructors may count repeated late arrivals or early departures as an absence, and a meeting should be setup to discuss this with the student. If students miss three or more classes, they may be considered to have not met the requirements of the course. If students have valid reasons, they could be withdrawn from the course with the approval of the instructor – otherwise, they would fail the course.

Other school policies can be accessed through the school of social work student handbook https://schoolofsocialwork.sites.olt.ubc.ca/files/2019/07/Handbook_2019-20.pdf

Learning Resources

UBC Learning Commons has a variety of tools and information such as; borrowing equipment, academic integrity **(APA Citation Guide),** writing support, skills for class, skills for life and academic support to assist students in their learning. https://learningcommons.ubc.ca/

University Policies

Support: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available at:
https://senate.ubc.ca/policies-resources-support-student-success

COVID-19: The School follows UBC health and safety guidelines. Please see https://covid19.ubc.ca/ for current information and guidance.

Learning Analytics

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. No learning analytics are being used in this course.

Copyright

All materials of this course (course handouts, lecture slides, assessments, course readings, etc.) are the intellectual property of the Course Instructor or licensed to be used in this course by the copyright owner. Redistribution of these materials by any means without permission of the copyright holder(s) constitutes a breach of copyright and may lead to academic discipline.

Students may not record class or group discussions without prior permission of all individuals in attendance.

Support

During the term, I will do my best to offer support if I am concerned about your academic performance or wellbeing. I also encourage you to contact me or your academic advisor if you need assistance. In addition, I may identify concerns using the UBC Early Alert system which provides students with the earliest possible connection to resources like academic advising, financial advising, counseling, or other support services to help you get back on track. Any information transmitted through early alert is treated as confidential (see earlyalert.ubc.ca).

GRADING CRITERIA:

Letter Grade	Percent Range	Mid-Point	
A+ A A-	90-100 85-89 80-84	95 87 82	Represents work of exceptional quality. Content, organization and style are all at a high level. Student demonstrates excellent research and reference to literature where appropriate. Also, student uses sound critical thinking, has innovative ideas on the subject and shows personal engagement with the topic.
B+ B B-	76-79 72-75 68-71	77.5 83.5 69.5	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 personal involvement in the work. Good use of existing knowledge on the subject.
C+ C C-	64-67 60-63 55-59	65.5 62.5 57	Adequate and average work. Shows fair comprehension of the subject, but has some weaknesses in content, style and/or organization of the paper. Minimal critical awareness or personal involvement in the work. Adequate use of literature.
D	50-54	52	Minimally adequate work, barely at a passing level. Serious flaws in content, organization and/or style. Poor comprehension of the subject, and minimal involvement in the paper. Poor use of research and existing literature.
F	0-49		Failing work. Inadequate for successful completion of the course or submitted beyond final date of acceptance for paper.