Analysis of Behavioural Data
PSYC 218, Section 006
Winter Term 2, 2018-19
TTh 9:30-11:00 AM, AERL 120

Instructor	**Teaching Fellow**	**Teaching Fellow**
Professor Frances Chen	Yeeun Lee	Anita Schmalor
Office: Kenny 3521	Office: Kenny 1007	Office: Kenny 2002
Office Hour: Thurs 11-12	Office Hour: Tue 2-3 PM	Office Hour: Mon 1:30-2:30
or Tues (by appointment)	yeeun.lee@psych.ubc.ca	anita.schmalor@psych.ubc.ca
frances.chen@psych.ubc.ca		

We look forward to seeing you during office hours – feel free to stop in! I offer drop-in office hours from 11-12 on Thursdays, or by appointment on Tuesdays (email me at least 48 hours in advance to request a time). We will also be using Piazza as a forum for discussion and for efficient assistance with questions. Rather than emailing questions about the course directly to the teaching staff, I encourage you to post your questions on Piazza. Sign up at: piazza.com/ubc.ca/winterterm22018/psyc218006

Please also remember to check your syllabus, class notes, and the announcements on the course website to see if your question has already been addressed there. If you still have a question after asking for assistance on Piazza, or if you have a question that requires my personal attention, email me. I will make every effort to respond within 48 hours on weekdays. However, please note that I receive a very high volume of email. For complex questions, I may ask that you come by my office hours instead.

Course Prerequisites
PSYC 217 and a declared major in Psychology, Cognitive Systems, or Speech Sciences.

Course Description and Goals
Numerical information is an important part of our daily lives. Scientific research, polls and our own informal data-gathering projects (*Which car is the best deal? What class did students like the best last term?*), are all characterized by interpreting data to support conclusions backed by evidence. This course introduces statistics as a tool for the analysis of quantitative data. We will cover descriptive statistics (how to look for patterns in a large data set), basic principles of probability, and inferential statistics (how to test hypotheses and draw conclusions about data). Becoming familiar with these topics will help you to analyze others' claims about data with a more trained eye, as well as to design, conduct, and analyze data from your own scientific research projects.

Required Materials
1. Pagano, R. (2012). *Understanding Statistics in the Behavioral Sciences* (10th Edition). Available at the UBC bookstore, bundled with Francis & Neath CogLab (item 2). Alternately, an e-book version of this textbook is available for rental online (go to www.vitalsource.com and enter ISBN 1111837260). The looseleaf version or hardback 10th Edition are both fine.
2. Francis, G., and Neath, I. (2007). *CogLab Online Version 5.0 With Access Code* (5th Edition). An access code for CogLab is available from the bookstore packaged with your Pagano text. Or, purchase access here: www.nelsonbrain.com/webapp/wcs/stores/servlet/en/micrositesca/UBC-PSYC218. To register on CogLab, please follow the instructions on the course website under "Modules—General Resources."
3. Cuttler, C. (2014). *A Student Guide to SPSS, including SPSS Student Version 22*. (2nd Edition). Available at the UBC bookstore or as an e-book at www.kendallhunt.com/cuttler. The book (both

the hard copy and e-book version) comes with an access code for SPSS, a software package that we will be using throughout the course.

4. iClicker. Available at the UBC bookstore.
5. Scientific calculator. You will need a basic scientific calculator (one with inverse and square root functions will be sufficient and should cost about $15 or less) for exams. Graphing or programmable calculators are NOT permitted during exams.

Course Reserves

A copy of the Pagano text is available on course reserve at Koerner library. SPSS software is available on computers in BUCH B101 and B121 and Koerner library room 218A. Check here for available drop-in times: http://isit.arts.ubc.ca/support/the-arts-computer-labs/
https://services.library.ubc.ca/computers-technology/public-computers/
Availability of the course reserves varies. You are responsible for timely completion of course assignments. If you are relying on access to course reserves to complete assignments, *plan ahead*!

Course Website

Our course website can be accessed through canvas.ubc.ca and can be used to register your clicker, download course materials, and view grades, updates, and announcements.

Lectures, Readings, and Assignments

Examinations will cover both lecture and textbook material. You are responsible for all material covered in lectures, all material in the textbook Chapters 1-10 and 12-15 (unless specifically informed otherwise in lecture), and lab assignments. Attendance at lectures is critical for success in this course, as is spending additional time outside of class to practice and review the material covered in lectures. As a rough guideline, you should expect to spend 3-5 hours outside of class for every hour of lecture (some people may need more than this).

Grading

Your final grade in the course will be based on four course components: exams (70%), laboratories (24%), research experience component (3%), and iClicker participation (3%). Grades will be posted on Canvas. Any re-grade requests or errors in your posted scores should be brought to the attention of your TFs/TAs no later than two weeks after the date that grades were posted on Canvas.

Exams (70%): There will be two midterms (18% each) and a final exam (34%).

> *Midterms (2 x 18%):* See the Course Schedule at the end of the syllabus for the midterm exam dates and the material they will cover. There will be no make-up midterm exams. If you miss a midterm for any reason, your final exam will be worth 18% more (i.e., 52% of your grade). If you miss a second midterm, your final exam will be worth 36% more (i.e., 70%). Requests for regrades must be made to your TFs/TAs within two weeks of the posting of the grades. If you request that a question be re-graded, your mark may go up, go down, or stay the same.
>
> *Final Exam (34%):* The final exam is cumulative and will cover material from the entire course, with an emphasis on material from Chapters 13-15 of the textbook. Do not schedule travel during the official exam period (April 8 to 26, inclusive), as you are required to be write the final exam at any scheduled time within this period. If you have three or more final exams scheduled to start and finish within a 24-hour period, you may request to write the second exam on a different day. You must make this request to the instructor giving the second exam at least one month before the exam date. If you absolutely must miss the final exam due to an

extenuating circumstance like severe illness, you or your caregiver must apply for Academic Concession by contacting your Faculty's Advising Office.

Lab Assignments (24%): There are six lab assignments, each worth 4% of your final grade, which are designed to give you practical experience analyzing and interpreting data using SPSS. See the Course Schedule at the end of the syllabus for specific dates and deadlines. Each lab assignment consists of two components to be completed on your own time:

>*1. CogLab or Survey:* In order to generate data that you and your classmates will use for the lab assignments, you will first complete an online experiment (using "CogLab") or survey. Each experiment or survey will take 10-20 minutes to complete. These are always due <u>at 9:00 AM</u>. Check the Course Schedule at the end of this syllabus for specific dates. If you do not complete this component by the deadline, 25% will be deducted from your final point total for your laboratory assignment (i.e., 1% of your final course grade). For detailed instructions about how to complete the CogLab experiments and survey, please see the on the course website under "Modules—General Resources."

>*2. Lab Assignment.* These assignments involve analyzing and drawing conclusions about the dataset that you and your classmates have generated. There will be in-class demos of the main functions of SPSS required for each assignment, one week before the assignment deadline. Assignment files will be posted on the course website in the section called "Assignments." These are always due on either <u>Tuesdays or Thursdays at 9:00 AM on Canvas.</u> Check the Course Schedule at the end of this syllabus for specific dates. You will lose 1/8 (12.5%) of your assignment grade (i.e., 0.5% of your final course grade) for each day or portion of a day up to 24 hours that your assignment is late. You are encouraged to meet with your TFs/TAs during their office hours, and to talk to your classmates, about issues you encounter while completing the assignments. However, <u>you must complete the analyses and write-ups on your own. You may not share your work with other students or use another student's work.</u>

Research Experience Component (3%): The Research Experience Component (REC) is designed to help you learn more about psychology by providing first-hand experience in research. For this course, you will be asked to spend a total of three hours participating in psychology studies. Each hour of participation is worth 1% of your final grade. You can locate and sign up for studies by going to the Department of Psychology's Human Subject Pool (HSP) system at <u>https://hsp.psych.ubc.ca</u>. Details about how to use the HSP online system can be found at <u>http://psych.ubc.ca/internal/human-subject-pool/</u> in the document entitled "Subject Pool Information for Participants." I strongly encourage you to complete these as early as possible in the term. After the subject pool closes (typically <u>during</u> the last week of classes), you will not be able to participate in further studies to earn course credit.

You may opt to fulfill the REC requirement by completing three library-writing projects instead of participating in research. If you choose this alternative, you will be expected to read and summarize three different research articles. Each article summary counts as one hour of research participation. For each summary, you must select a research article (not a letter to the editor, commentary, or review paper) published between 2000 and the present in the journal *Psychological Science*. Each summary should be about 500 words and should describe the research question, methods, and results of the study presented in the article. Complete instructions on how to complete the library-writing projects can be found on p.4 ("The Library Option") of the guide at <u>http://psych.ubc.ca/internal/human-subject-pool/</u> in the document entitled "Subject Pool Information for Participants." You must adhere to the complete instructions detailed in the guide to receive your credits.

iClicker participation (3%): Active participation during lectures will be essential for you to learn the material, prepare for exams, and get the most out of this course. I will incorporate iClicker questions into each lecture to check for understanding and to encourage active participation and discussion. Please bring your clicker to every class; it is not possible to make up iClicker points if you are absent or forget your clicker. Register your clicker by going to "iClicker" in the course website. If you answer at least 75% of the iClicker questions during a class period, for at least 90% of the classes during the term, you will earn the full 3% for this course component.

Support Resources and Early Alert
Many students encounter setbacks from time to time that can impact academic performance. If you run into difficulties and need assistance, I encourage you to contact me. I will do my best to support your success during the term. This includes identifying concerns I may have about your academic progress or well-being through Early Alert. With Early Alert, faculty members can connect you with advisors who offer students support and assistance getting back on track to success. Only specialized UBC advisors are able to access any concerns I may identify, and Early Alert does not affect your academic record. For more information about Early Alert, visit http://earlyalert.ubc.ca. For information about addressing mental or physical health concerns, including seeing a UBC counsellor or doctor, visit http://students.ubc.ca/livewell.

Academic Accommodations for Students with Disabilities
Academic accommodations help students with a disability or ongoing medical condition overcome challenges that may affect their academic success. Academic accommodations are not determined by course instructors. However, your instructor may consult with Centre for Accessibility should the accommodations affect the essential learning outcomes of a course. For more information, see https://students.ubc.ca/enrolment/academic-supports/academic-accommodations-disabilities.

Religious Accommodations
Religious observance may preclude attending classes or examinations at certain times. In accordance with the UBC Policy on Religious Holidays, students who wish to be accommodated for religious reasons must notify their instructors in writing at least two weeks in advance, and preferably earlier.

Academic Misconduct
Cheating on exams will result in a score of 0 for that exam. Although we encourage you to talk to your classmates about the lab assignments, the final write-ups for the assignments must be done on your own and in your own words. Sharing your write-up or using another student's write-up is considered cheating and will result in a score of 0 for that assignment. Using another student's clicker to answer questions for him or her is also considered cheating. If you are caught with more than one clicker in class, both clickers will be confiscated and you will both receive a 0 for course participation. All forms of cheating will be reported to the university for appropriate action.

Psychology Department's Position on Academic Misconduct
Cheating, plagiarism, and other forms of academic misconduct are serious concerns of the University, and the Department of Psychology has taken steps to alleviate them. First, the Department uses software that can reliably detect cheating on multiple-choice exams by analyzing the patterns of students' responses. In addition, the Department subscribes to Turnitin, a service designed to detect and deter plagiarism. All materials (e.g., papers, lab assignments) that students submit for grading may be scanned and compared to over five billion pages of content located on the Internet or in Turnitin's own proprietary databases. The results of these comparisons are compiled into customized "Originality

Reports" containing several, sensitive measures of plagiarism; instructors receive copies of these reports for students in their class.

In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. Strong evidence of cheating or plagiarism may result in a zero credit for the work in question. According to the University Act (section 61), the President of UBC has the right to impose harsher penalties including (but not limited to) a failing grade for the course, suspension from the University, cancellation of scholarships, or a notation added to a student's transcript.

If you have any questions as to whether or not what you are doing is even a borderline case of academic misconduct, please consult me. For details on pertinent University policies and procedures, see Chapter 5 ("Policies and Regulations") in the UBC Calendar (http://students.ubc.ca/calendar).

Equity and Inclusion
Our classroom should be conducive to learning and rigorous intellectual inquiry. It is also a place where everyone should feel included and respected, regardless of race, ethnicity, gender identity, sexual orientation, political and religious affiliations, and visible or invisible disabilities. All students in this class are encouraged to speak up and participate during class meetings. When you do express yourself in class, it's important that you do so in a manner that shows respect for every other member of this class. Please make sure that you're familiar with UBC's policy on maintaining a Respectful Environment on campus and in the classroom: http://www.hr.ubc.ca/respectful-environment/

During our discussions, it is possible that someone might say something that is perceived by someone else to be insensitive. If this happens, important to respond responsible manner too. If something is expressed—whether it's by me, a TA, or a fellow student—that you perceive to violate these goals of equity and inclusion and universal respect, I encourage you to bring it to my attention in whatever way you feel most comfortable doing so. (You can let me know directly, or you can do so anonymously— for instance by asking a third party to relay a message to me.) By doing so, you will be doing a good deed by helping to educate all of us and by promoting an inclusive educational environment.

Psychology Department's Policy on Grade Distributions and Scaling
In order to reduce grade inflation and maintain equity across multiple course sections, all psychology courses are required to comply with departmental norms regarding grade distributions. According to departmental norms, the average grade in a 100- and 200-level Psychology courses are 67 for an exceptionally strong class, 65 for an average class, and 63 for a weak class, with a standard deviation of 14. Scaling may be used in order to comply with these norms; grades may be scaled up or down as necessary by the professor or department. Grades are not official until they appear on a student's academic record. You will receive both a percent and a letter grade for this course. At UBC, grades are converted according to the key below:

A+	90-100%	C+	64-67%
A	85-89%	C	60-63%
A-	80-84%	C-	55-59%
B+	76-79%	D	50-54%
B	72-75%	F	0-49%
B-	68-71%		

COURSE SCHEDULE

Any changes to this schedule will be announced during lecture and on the course website.

Week	Date	In-Class Topic	Pagano Reading	Deadlines & Due Dates	In Class Event
1	Thur Jan 3	Intro & Measurement Basics	Ch 1&2		
2	Tue Jan 8	Frequency Distributions	Ch 3		
	Thur Jan 10	Percentiles & Central Tendency	Ch 4	CogLab "Stroop" due at 9 AM	
3	Tue Jan 15	Variability			SPSS Demo 1
	Thur Jan 17	z-scores	Ch 5	Qualtrics Survey due at 9 AM CogLab "Memory Span" due at 9 AM	
4	Tue Jan 22	Correlation	Ch 6	**Assignment 1 due at 9 AM**	
	Thur Jan 24	Linear Regression	Ch 7		SPSS Demo 2+3
5	Tue Jan 29	Sampling & Probability	Ch 8		
	Thur Jan 31	Catch-up, Review		**Assignment 2+3 due at 9 AM**	
6	Tues Feb 5	--			**Midterm 1**
	Thur Feb 7	Probability		CogLab "Change Detection" due at 9 AM	
7	Tue Feb 12	Binomial Distribution	Ch 9		
	Thur Feb 14	Hypothesis Testing & Sign Test	Ch 10	CogLab "False Memory" due at 9 AM	
	Tue Feb 19	**READING BREAK**			
	Thur Feb 21				
8	Tue Feb 26	Sampling Distributions	Ch 12		SPSS Demo 4
	Thur Feb 28	z-test		CogLab "Risky Decisions" due at 9 AM	
9	Tue Mar 5	Power			
	Thur Mar 7	Catch-up, Review		**Assignment 4 due at 9 AM**	
10	Tue Mar 12	--			**Midterm 2**
	Thur Mar 14	Single Sample t-test	Ch 13		SPSS Demo 5
11	Tue Mar 19	Effect Sizes			
	Thur Mar 21	Confidence Intervals		**Assignment 5 due at 9 AM**	
12	Tue Mar 26	Two Sample t-tests	Ch 14		
	Thur Mar 28	Two Sample t-tests			SPSS Demo 6
13	Tue Apr 2	One-Way ANOVA	Ch 15		
	Thur Apr 4	Wrap-up & Final Review		**Assignment 6 due at 9 AM**	
The final exam date will be set by the registrar. **Do not book travel during exam period: April 8 to 26 (inclusive).**					