**SW-282A: Seminar in Social Welfare Research**

***Data Science for Social Good***

**Fall 2019 – 2 Units**

**Mondays, 10:00am – 11:55am – Haviland Hall, Room 5**

**University of California, Berkeley**

**School of Social Welfare**

**Professor: Erin M. Kerrison, Ph.D.**

Office hours: by appointment, (in-person and via teleconference)

Graduate Student Instructor: Douglas Epps, MSW

“every single line means something”

* Jean-Michel Basquiat

**Course Description**

This course is designed to provide an overview of quantitative research methods used in social welfare research. Learning objectives include exposure to data presentation and normalization, identifying variable types and levels of measurement, conducting descriptive statistics, testing theoretically-derived hypotheses, and interpreting visual representations of organized data analyses. The course will also provide an introduction to using Jupyter, a powerful cloud-based computer programming platform, and Python, a widely-used computer programming language.

There are three primary goals to this course:

1) to equip students with foundational statistical data analytic skills and the ability explore and manipulate datasets germane to their research and practice interests;

2) to make students better consumers of social science information that they may encounter on a regular basis (e.g. on TV, in newspapers, within social media platforms); and

3) to provide the necessary background for students to begin conducting their own social welfare research, with little or no material expense, and on behalf of populations they serve.

Students will have a concrete sense of how to initiate quantitative data analysis, or the process of systematically applying statistical techniques to describe, evaluate, and illustrate data. Regardless of the analytic method, the aim is for students to understand how they may produce a research conclusion built on evidence (data) that will withstand examination by professional peers. The skills and insight gained in this course are useful in ***many*** occupational environments, for success in graduate level education, and in enhancing your intellectual development as social scientists and participants in everyday life.

**Course Objectives, Competencies, and Assessments**

Upon completion of the course, students should be able to demonstrate content competence and critical thinking skills related to social science research methods. Specifically, students should demonstrate the proficiency in a minimum of the [Council on Social Work Education’s 2015 Education Policy and Accreditation Standards](https://www.cswe.org/getattachment/Accreditation/Accreditation-Process/2015-EPAS/2015EPAS_Web_FINAL.pdf.aspx) (EPAS) core competencies, 2, 3, 4, 5, and 9:

* Content: Students are expected to read, understand and apply the principles of research design and development. The comprehensive exams, written methodological critiques, and in-class activities will assess students’ understanding of these principles.
* Critical thinking skills: Students will be required to engage complex analyses of the principles of probability theory and research design, and their applicability to social work values, social justice, and human diversity. The essay examinations and written methodological critiques will assess these skills.
* Communication skills: Students will be required to demonstrate proficiency in oral and written communication skills consistent with graduate-trained researchers and practitioners. Students will also develop skills to communicate accurately with clients, and be able to deliver empirically-based interventions to a diverse array of populations. Through in-class discussions, written methodological critiques, and essay examinations, these skills will be tested and honed.
* Ethical development: Students will acquire the skills to apply ethical standards to social welfare research designs. Students will also be instilled with an understanding and appreciation of the need for integrity, honesty and impeccability in all aspects of social welfare research and practice. Students will also be required to collaborate with others whose backgrounds and perspective may differ from their own. The comprehensive exams, in-class activities, written methodological critiques, and NIH Human Subjects Certification course will assess students’ ethical development.

**Required Materials**

Reading

Salkind, N. J. (2017). *Statistics for people who (think they) hate statistics* (6th edition). Thousand Oaks, CA: Sage Publications, Inc.

The cost of required textbooks may deter some students from purchasing them, which can hinder their academic success.  As such, please know that copies of the required textbook are available for loan at no cost to students, at the [Social Research Library](http://www.lib.berkeley.edu/libraries/social-research-library) in Room 227 of Haviland Hall. The remaining required course readings will be available for free download via bCourses.

A free and open [companion website](https://edge.sagepub.com/salkind6e) for this textbook is available to help you study. This site includes the datasets mentioned in the book, as well as practice quizzes, flashcards, videos, and journal articles.

Electronic

As a substantial portion of the course materials are housed on two cloud-based servers, it is critical that students have access to the following:

* an electronic tablet or laptop computer for in-class use
* reliable high-speed internet connection as well as a desktop, laptop, or a tablet (some of the web-based functionality may not prove useful on a cell phone) for work completed outside of class

**Requirements for Enrollment**

* Participation and Attendance Policy
* Attendance is very important to your success in this class. Attendance will be taken daily at the start of class so please arrive on time so that your attendance is accurately recorded. If you are late to class and consequently marked absent, it is your responsibility to send Doug Epps a bCourses message within one week of that class, to request an attendance record revision.
* Please do not feel compelled to request permission or send notifications for when you miss an in-class meeting (whether the absence was planned or not).
* This class meets in-person, for up to 2 hours weekly on Mondays. Students can expect to devote a minimum of 2 hours of preparation (reading, reflecting, reviewing notes, preparing for exams, etc.) per week.
* Class time will be used in a variety of ways: lecture, small and large group discussion, analytic demonstrations, hands-on analytic exercises, etc. *Since this work will presume and build upon an understanding of the readings, it is essential that you read and be prepared to discuss assigned readings before the class for which they are assigned.* ***Please note that this is also a requirement for course enrollment.***
* Learners are expected to actively participate in and contribute to their own learning experience. Participation means providing substantive comments, questions, and contributions that advance the learning process for that learner as well as the other learners in the course.
* Students are expected to complete course evaluations at the end of the term. Your responses to the evaluation prompts have no bearing on your individual assessments.

Technology and the Use of Electronic Devices

* If you are disabled, differently-abled, or are navigating a condition that impacts your participation in this course, please schedule a private appointment with me as soon as possible to confidentially discuss accommodations for your specific needs. For more information about accessing resources that could help to support learning efforts further complicated by disabling conditions, please contact the Disabled Students’ Program (DSP): <http://dsp.berkeley.edu/>.
* Unless there is demonstrated need for audio-visual related technology due to a **documented** need that is recognized by the University of California at Berkeley, the use of recording devices are prohibited in the classroom.
* Unfortunately, previous technology users have been tempted to (unsuccessfully) multi-task during class time. Surfing the web, checking FaceBook, and IMing, for example, are not appropriate classroom uses for computers. Neither is pod-casting or You-tubing edited selections of the lecture or discussion. These actions result in distractions to other students sitting in the area near the computer user, inappropriate use of classroom resources, and privacy violations. Please do not engage in these behaviors.
* Out of respect for your peers and the collective desire to limit distractions that hinder learning, please turn your cell phone(s) to *SILENT*. If there are urgent circumstances for which you must be reachable by telephone, please make every effort to step outside of the classroom to attend to those needs.

Classroom Etiquette

* It is crucial that we all take responsibility for creating an inquiry community in which open and respectful dialogue can occur. You should actively challenge other students on important issues because, when done respectfully, this can be a powerful learning tool. The course must be a place where we can discuss our differing perspectives without judgment. For this to happen, we will each need to work hard to remain attentive to others’ opinions (and critically self-reflective of our own), realizing that we all hold important points of view.
* A number of substantively sensitive issues will be discussed in this classroom and this space serves as a safe platform upon which all viewpoints are welcome. Please note that we cannot expect bravery and honesty of one another, absent some measure of shared trust. Your discussions will be as productive as you allow them to be.
* Students are expected to treat each other with respect. Disruptive and disrespectful behavior of any kind will not be tolerated. Examples of prohibited behavior include excessive talking over others, entertaining side conversations that distract classroom members, and mocking or bullying of any sort (in class or online).
* We must treat our classroom space and the campus housekeeping staff, with the utmost respect. With the exception of accommodating community members who must eat or administer medication during class sessions, all instructors reserve the right to prohibit food consumption in the classroom spaces. The hope and expectation is that everyone will clean up after themselves during and following each meeting session, but if that trust is violated, food and drink (other than water) will not be allowed in the classroom.

Academic Honesty, Integrity, and Communication

* Barring the emergence of an emergency or unforeseeable obligation (or participation in a university-sanctioned event/observance) that precludes your capacity to take a scheduled exam, missed exams cannot be made up.
* If you miss class, you are still responsible for any and all materials/announcements covered during that session. It is NOT the instructor’s or the GSI’s responsibility to “catch you up” or provide lecture notes.
* Policy on Religious Holidays**:** If you will be observing any religious holidays this semester which will interfere with fulfilling any course requirement, please schedule an appointment for us to discuss alternative arrangements. Please also be sure to inform me of the dates of your religious holidays **within two weeks** of the semester’s start (or **three days** before any holidays which fall within the first two weeks of the semester’s start).
* No extra credit work opportunities will be assigned or accepted.
* Any changes made to this syllabus will be announced with ample notice and disseminated through the bCourses messaging portal. Any other news may be announced in class and students who are absent at those times are still held responsible for all information covered that day. I strongly encourage you to review your bCourses inbox and UC Berkeley email account daily.
* With the exception of September 2nd and November 11th (university-wide administrative holidays), I will make myself available to discuss private matters during the weekday business hours of 10am-6pm, either in-person on campus or [via teleconference](https://berkeley.zoom.us/).
* If you would like to schedule an appointment to speak privately, **please send a request via the bCourses messaging portal** that includes the following information about your availability that week and your needs:
  + A choice of at least two dates
  + A choice of at least two 2-hour time blocks on each of those days
  + The subject matter you would like to discuss

Requests that are incomplete or sent via email instead of through the bCourses messaging portal, could delay our mutual scheduling efforts.

* When sending me written correspondence to related to this course, **please use the bCourses messaging portal**.
* Also, please use standard business email etiquette when writing your messages (e.g., use proper grammar and spelling, include a salutation, and include a signature with contact details, if required for further correspondence beyond the bCourses platform). For a few tips that may help in writing emails to faculty, colleagues, employers, and potential employers, please visit the following website: <http://www.businesswritingblog.com/business_writing/2006/01/greetings_and_s.html>.

**Student Learning and Wellbeing**

* The [Graduate Writing Center](http://grad.berkeley.edu/professional-development/graduate-writing-center/) assists graduate students in the development of academic skills necessary to successfully complete their graduate programs and prepare for future faculty and professional positions. This unit offers workshops on topics such as academic writing, grant writing, dissertation writing, editing, and preparing articles for publication, in addition to writing groups and individual consultations on these topics for graduate students.
* The Disabled Students’ Program (DSP) supports students with disabilities in achieving academic success at the world’s top-ranked public higher education institution. DSP staff includes disability specialists, professional development counselors, and accessibility experts that work with students with disabilities throughout their educational career. Any student who believes that they may need an accommodation based on a disability should contact DSP: <http://dsp.berkeley.edu/>.
* Counseling and Psychological Services (CPS) offers short term counseling for academic, career and personal issues. There is no charge to get started, and all registered students can access services regardless of their insurance plan. For more information, please consult: <https://uhs.berkeley.edu/counseling>.
* University Health Services at the Tang Center is a fully-accredited outpatient center designed to address all aspects of health, with medical, mental health, wellness and health education all under one roof. **All registered students may use the Tang Center**, regardless of insurance. For the majority of students enrolled in the Student Health Insurance Plan (SHIP), care is coordinated seamlessly at Tang. Tang’s staff includes board-certified physicians, registered nurses, nurse practitioners, medical assistants, physical therapists, pharmacists, nutritionists, lab/radiology/pharmacy technicians, social workers, licensed psychologists and psychiatrists, health educators and insurance specialists. Please consult: <https://uhs.berkeley.edu/medical>.
* Berkeley Recreational Sports is dedicated to enhancing the knowledge, wellness, fitness, personal skills and quality of life for students, faculty, staff, and the community. For more information, please consult: <https://recsports.berkeley.edu/>.
* UC Berkeley is dedicated to preventing and addressing sexual harassment and sexual violence on campus. We believe in fostering a culture that prioritizes consent and respect, and responds to and supports survivors and their allies. As part of these efforts, we are working to engage all members of the university community to create a healthy and inspiring environment where violence in any form is not tolerated. Sexual violence includes stalking, dating and domestic violence, and sexual assault.  All these behaviors are forms of sexual harassment.  These affect many lives - both directly and indirectly - regardless of one's identity, gender, sexual orientation, gender identity, age, race, ethnicity, socioeconomic background, religion, citizenship status, marital status, ability, education level or affiliation.  If you’ve experienced sexual harassment and/or sexual violence, know – first and foremost – that what happened is not your fault. You deserve safety and respect, always. You may be experiencing a wide range of feelings such as shock, fear, disbelief, recurring memories, outrage, confusion, sadness, despair, and anger. All of your feelings are valid. Whether you tell someone, who you tell, and how you tell your story is entirely your decision. Regardless of what you decide, there are many people at UC Berkeley who are committed to helping students, faculty, and staff in need. Please consult: <http://survivorsupport.berkeley.edu/>.
* For information about emergency preparedness strategies, please consult: <http://oem.berkeley.edu/get-informed-main-photo-page>.
* For students who may be experiencing basic needs insecurities, the campus' Basic Needs Security Committee (<http://www.basicneeds.berkeley.edu/>), or the campus Dean of Students (<http://deanofstudents.berkeley.edu/support>) can provide information on resources and support.

**Criteria for Grading**

1. WORKBOOKS due \_\_\_\_\_\_\_
2. EXAMS –

All narrated lectures, datasets, and analytic workbooks can be found in the corresponding weekly module on bCourses. Expectations and guidelines for all written assignments and submissions can also be found in bCourses.

**Course Schedule**

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|  | **Topic** | **Reading** | **Submission** |
| 9/2 | *No In-Person Class Meeting (Administrative Holiday)* |  | -- |
| 9/9 | Course Introduction  Syllabus Overview/Contract | Salkind – Chapter 1  Engel & Schutt – Chapter 1 | bCourses Orientation |
| 9/16 | Data Sources & Cleaning | Metcalf & Crawford | Hello World ☺ |
| 9/23 | Question Formulation & Variable Types |  |  |
| 9/30 | Central Tendency | Salkind – Chapter 2 | Computations & Rationale for CT choice |
| 10/7 | Variability & Spread | Salkind – Chapter 3 |  |
| 10/14 | Visual Representation | Salkind – Chapter 4 |  |
| 10/21 | Correlation & Validity | Salkind – Chapters 5 & 6 |  |
| 10/28 | *No In-Person Class Meeting*  *(Exam Administered Online)* | -- | Exam 1 |
| 11/4 | Hypotheses | Salkind – Chapters 7, 8, & 9 | -- |
| 11/11 | *No In-Person Class Meeting (Administrative Holiday)* | -- | -- |
| 11/18 | Statistical Difference | Salkind – Chapters 10 & 11 |  |
| 11/25 | Prediction | Salkind – Chapter 16 |  |
| 12/2 | *No In-Person Class Meeting*  *(Exam Administered Online)* | -- | Exam 2 |