SOCIOMETRY 261
Introduction to Statistical Thinking in Sociology

Professor: Timothy L. O'Brien, Ph.D.
Class location: Mitchell Hall 191
Class time: M/W 12:00 – 12:50pm
Office: Bolton Hall, Room 744
Office hours: W 2:00 – 4:00pm and by appointment
Phone: (414) 229-5820
Email: obrien34@uwm.edu

Teaching Assistant: Navada Hessler
Lab location: Mitchell Hall 353
Lab time: W 2:00-2:50pm
Office: Bolton Hall 778
Email: nhessler@uwm.edu
Office hours: R 1:00-3:00pm

Teaching Assistant: Tenshi Kawashima
Lab location: Bolton Hall 293
Lab time: W 1:00-1:50pm; 2:00-2:50pm
Office: Bolton Hall 729
Email: tenshi@uwm.edu
Office hours: T 2:00-4:00pm

Course Description
This course is an introduction to the statistical concepts and tools needed to analyze the social world. The purpose of using statistics in social science is to support claims about human behavior and social interaction. However, since we cannot always directly observe everything we wish to study, social scientists often collect information from samples of people, families, and groups, among other things, and use that information to learn about the population at large. In brief, this course provides an overview of how social scientists use statistics to study social life.

This course satisfies the GER Quantitative Literacy B (QL-B) requirement. It is required for the BA in Sociology and the BS in Criminal Justice, and can be used for the introductory statistics requirement in the Quantitative Social Data Analysis (QSDA) certificate program.

Course Goals
There are four main goals for this course:

1. Students will learn the difference between descriptive and inferential statistics. Descriptive statistics allow us to summarize characteristics of a sample and relationships between these characteristics. Inferential statistics allow us to draw conclusions about the population given what we know about our sample.
2. Students will put descriptive and inferential statistics into practice by analyzing data, both by hand and using data analysis software.

3. Students will learn to interpret findings from statistical analyses in substantively meaningful ways. In other words, students will be able to translate numbers into stories that describe and explain social behavior.

4. Students will be able to use what they have learned in the course to become savvy consumers of statistics in everyday settings.

Prerequisites
A satisfactory grade in GER Quantitative Literacy A (QL-A) is required (such as Math 102, 103, 105, 108, or 111). Sociology 101 OR sophomore standing is required. The course involves lots of arithmetic and symbols and some algebra, so knowledge of finite math will be very helpful.

Required Texts
Required readings will be available online via D2L.

Recommended Texts

Another helpful (free!) resource is Online Statistics: An Interactive Multimedia Course of Study, by David Lane, Joan Lu, Camille Peres, and Emily Zitek, found at http://onlinestatbook.com.

All readings must be read carefully before the class they are assigned.

Course Time Commitment
As the UW System assumes “that study leading to one semester credit represents an investment of time by the average student of not fewer than 48 hours” (UWS ACPS 4), a 3-credit course such as this one will require a minimum of 144 (3 x 48) hours of your time. You may find it necessary to spend additional time on the course; the numbers below only indicate that the course will not require any less of your time. A traditional, face-to-face course such as this requires that you spend a minimum of:
- 37.5 hours in the classroom
- 75 hours preparing for class, which may include reading, note taking, completing minor exercises and assignments, and discussing course topics with classmates and the professor and teaching assistants in structured settings
- 31.5 hours preparing for and writing major papers and/or exams

Course Requirements and Evaluation
Students have the opportunity to earn up to 1000 points throughout the semester. Letter grades will be based on the usual scale:
- A (1000-930), A- (929-900)
- B+ (899-870), B (869-830), B- (829-800)
- C+ (799-770), C (769-730), C- (729-700)
Final grades will be calculated based upon the following components:

**Labs**
Attendance at a lab section is required (Section 801, 802, 803, or 804). You may only attend the lab in which you are enrolled. The main purpose of the labs will be to teach students how to use SPSS software and to practice the analytical skills covered in lecture. The lab TAs (Navada and Tenshi) will also elaborate on lecture materials (including giving more examples), go over lecture homework (after assignments are due), and can help you with hand-calculation questions.

**Attendance (100 points)**
It is important for students to attend all class meetings because lectures and other class activities will not repeat what is covered in the readings. Starting in week 2, I will circulate an attendance sheet during each class meeting. It is the student’s responsibility to sign the sheet each class. Students can miss four classes without penalty. Each absence for any reason (except for university sanctioned excuses, such as religious holidays) beyond four will result in a deduction of 25 points (or 2.5% of your final grade). A maximum of 100 points (or 10% of your final grade) may be deducted for attendance.

**Problem sets (10 points each, or 150 points total)**
There will be problem sets on a near weekly basis to apply the concepts and skills we cover in lecture. Each is worth 10 points. Most will be posted on Canvas and completed as homework, although a few will be completed as in-class assignments during lecture. Solutions will be provided in lecture and lab. Due dates are listed on the schedule below. Problem sets will require hand calculations only (i.e., no SPSS).

**Exams (100 points each, or 600 points total)**
Instead of having two or three major exams, there will be six tests throughout the semester. Each is worth 100 points. Exams will be taken during regularly scheduled class meetings, and will cover class material and required readings (recommended readings will not be covered). Exams may be comprised of multiple choice, essay, and computational questions and will focus on the material covered since the last exam. Exams are not designed to be cumulative, but the knowledge and skills you acquire in each unit of the class will build on earlier material. If you are unable to take an exam during the scheduled time, you need to contact me with a university documented excuse prior to the exam. Students who fail to do so will receive a zero and will not be allowed to make up the exam, except under the most unusual circumstances.

**Lab Assignments (50 points each, or 150 points total)**
Students will complete 3 lab assignments over the course of the semester. Due dates will be announced in class. Each is worth 100 points. Lab assignments will help students put into practice the conceptual material from lecture, and will give students practical experience with data analysis using SPSS software. Students must complete these assignments individually. Although lab time will be devoted to complete these assignments, it may be necessary for students to work on them outside of class. You may purchase SPSS software, but it is not
required. SPSS is available on most computers on UWM’s campus. More information about these assignment is available on D2L.

**Classroom Expectations**
Regular, enthusiastic participation in discussions and class activities is required of all students. Furthermore, I encourage students to ask questions at any point during lectures, discussions, and other activities. One of the best parts of university life is our ability to discuss important, albeit sometimes sensitive topics from a range of perspectives. Keeping in mind that students come from diverse backgrounds, it is necessary to frame contributions to class respectfully; disagreeing with another perspective does not mean it cannot be learned from. Also, as a matter of courtesy to your classmates I ask that cell phones and other electronic devices be turned off or set to silent during class meetings.

**Laptops, Tablets, Mobile Devices**
Class meetings will demand your full attention. Deep learning requires sustained focus on a single task. Using a computer to take notes or refer to readings in class is acceptable, but if you use your laptop or mobile device to chat, update social media, play games, watch television, etc., it distracts me and your classmates. If I notice a student who is off task, I will invite them to get back on task. I encourage students to do the same. Feel free to step outside of class to make or take important calls or texts.

**Incompletes**
I will not provide students with “incompletes” except under the most unusual circumstances.

**Disability Policy**
It is the policy and practice of the University to make reasonable accommodations for students with properly documented disabilities. Students should coordinate with the Accessibility Resource Center (ARC) and me regarding accommodations. More information can be found at [http://uwm.edu/arc/](http://uwm.edu/arc/).

**Academic Integrity**
This course is part of the University’s academic community and students are expected to adhere to the highest standards of integrity. Cases of academic dishonesty will NOT be tolerated under any circumstance. Instances of academic dishonesty will be dealt with according to University policy. Academically dishonest behavior includes but is not limited to cheating on tests and quizzes, stealing test materials, colluding with classmates or others on assignments, submitting the intellectual work of another as one’s own, or falsely represented oneself or another for attendance or participation grades. Student academic misconduct procedures are specified in Chapter UWS 14 and Faculty Document No. 1686 and can be found at [http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm](http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm).

**Class Meetings and Assigned Readings**
*Note: All readings are to be completed **before** the class they are assigned.*

*D2L= Desire to Learn*
*OS=Online Statistics*
*FS=Fundamentals of Statistics*
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<th>Week</th>
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<th>Topic</th>
<th>Reading</th>
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<tr>
<td>1</td>
<td>M</td>
<td>1/21</td>
<td>Martin Luther King Day—no class</td>
<td>No reading</td>
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<tr>
<td></td>
<td>W</td>
<td>1/23</td>
<td>Course introduction</td>
<td>No reading</td>
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| 2    | M   | 1/28 | Key concepts in statistics | **Required:** Stat-Spotting (D2L)  
**Recommended:** Chapter 1 (FS)  
Chapter 1 (OS) |
|      | W   | 1/30 | Organizing & displaying data  
*PROBLEM SET 1 DUE IN LAB | **Required:** The Gee-Whiz Graph (D2L)  
**Recommended:** Chapter 2 (FS)  
Chapter 2 (OS) |
| 3    | M   | 2/4  | Exam 1 | No reading |
|      | W   | 2/6  | Central tendency & dispersion | **Required:** The Well Chosen Average (D2L)  
**Recommended:** Chapter 3 (FS)  
Chapter 3, part A (OS) |
| 4    | M   | 2/11 | Central tendency & dispersion  
*PROBLEM SET 2 DUE IN CLASS | **Recommended:** Chapter 4 (FS)  
Chapter 3, part B (OS) |
|      | W   | 2/13 | Mean comparisons and box plots  
*PROBLEM SET 3 DUE IN LAB | **Recommended:** Chapter 2.7 on boxplots (OS) |
| 5    | M   | 2/18 | Exam 2 | No reading |
|      | W   | 2/20 | Contingency tables | **Recommended:** Chapter 15 pp. 584-592 (FS) |
| 6    | M   | 2/25 | Measures of association | **Recommended:** Chapter 4 (OS) |
|      | W   | 2/27 | Correlation  
*PROBLEM SET 4 DUE IN LAB | **Recommended:** Chapter 13 (FS) |
| 7    | M   | 3/4  | Bivariate Regression | **Recommended:** Chapter 14 (FS)  
Chapter 14 (OS) |
|      | W   | 3/6  | Bivariate Regression  
*PROBLEM SET 5 DUE IN LAB | |
| 8    | M   | 3/11 | Introduction to multiple variable analysis  
*PROBLEM SET 6 DUE IN LECTURE | **Required:** Post Hoc Rides Again (D2L)  
No reading |
<p>|      | W   | 3/13 | Exam 3 | No reading |
| 9    | M   | 3/18 | SPRING BREAK | No reading |
|      | W   | 3/20 | SPRING BREAK | No reading |</p>
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<th>Date</th>
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| 3/25 | M   | Probability | Chapter 6 (FS)  
Chapter 5 (OS)  |
| 3/27 | W   | Probability | Chapter 6 (FS)  
Chapter 5 (OS)  |
| 4/1  | M   | Sampling distributions | Chapter 6 (FS)  
Chapter 9 (OS)  |
| 4/3  | W   | Sampling distributions | Chapter 6 (FS)  
Chapter 9 (OS)  |
| 4/8  | M   | Exam 4 | No reading |
| 4/10 | W   | Normal distribution | Chapter 5 (FS)  
Chapter 7 (OS)  |
| 4/15 | M   | Estimation using confidence intervals | Chapter 6 (FS)  |
| 4/17 | W   | Introduction to hypothesis testing | Chapter 7 (FS)  
Chapter 9 (OS)  |
| 4/22 | M   | Hypothesis testing for one sample means | Chapter 8 (FS)  |
| 4/24 | W   | Exam 5 | No reading |
| 4/29 | M   | Hypothesis testing for two sample means | Chapter 9 (FS)  
Chapter 12 (OS)  |
| 5/1  | W   | Hypothesis testing for contingency table | Chapter 15 (FS)  |
| 5/6  | M   | Hypothesis testing for regression | Chapter 15 (FS)  
Chapter 14 (OS)  |
| 5/8  | W   | Exam 6 | No reading |

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<th>Summary of Exam Dates</th>
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<tr>
<td>Exam 1</td>
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UNIVERSITY AND SOCIOLOGY DEPARTMENT POLICIES

The Secretary of the University maintains a web page that contains university policies that affect the instructor and the students in this course, as well as essential information specific to conduct of the course. The link to that page is:  http://www4.uwm.edu/secu/news_events/upload/Syllabus-Links.pdf

Accommodations for Students with Disabilities. In the pursuit of equal access and in compliance with state and federal laws, the University is required to provide accommodations to students with documented disabilities. It is expected that a statement be placed on your syllabus informing students to contact you to arrange needed accommodations. A sample syllabus statement can be found here: https://uwm.edu/arc/wpcontent/uploads/sites/97/2015/08/Recommended-Syllabus-Statement.pdf

Religious Observances. Policies regarding accommodations for absences due to religious observance are found at the following:  http://www4.uwm.edu/secu/docs/other/S1.5.htm

Students called to active Military Duty. Accommodations for absences due to call-up of reserves to active military duty are found at the following:  https://uwm.edu/active-duty-military/

Incompletes. You may be given an incomplete if you have carried a course successfully until near the end of the semester but, because of illness or other unusual and substantiated cause beyond your control, have been unable to take or complete the final examination or to complete some limited amount of course work. An incomplete is not given unless you prove to the instructor that you were prevented from completing the course for just cause as indicated above. The conditions for awarding an incomplete to graduate and undergraduate students can be found at the following: https://www4.uwm.edu/secu/docs/other/S_31_INCOMPLETE_GRADES.pdf

Discriminatory Conduct (such as sexual harassment). Discriminatory conduct will not be tolerated by the University. It poisons the work and learning environment of the University and threatens the careers, educational experience and well-being of students, faculty and staff. Policies regarding discriminatory conduct can be found at: https://www4.uwm.edu/secu/docs/other/S_47_Discriminatory_Policy.pdf

Academic Misconduct. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others' academic endeavors. Policies for addressing students cheating on exams or plagiarism can be found at the following: https://uwm.edu/academicaffairs/facultystaff/policies/academic-misconduct/

Complaint Procedures. Students may direct complaints to the Sociology Department Chair or the Associate Dean for Social Sciences in the College of Letters & Sciences. If the complaint allegedly violates a specific university policy, it may be directed to the Sociology Department Chair, the Associate Dean for Social Sciences in the College of Letters & Sciences, or to the appropriate university office responsible for enforcing the policy. Policies may be found at: https://www4.uwm.edu/secu/docs/other/S_47_Discriminatory_Policy.pdf

Grade Appeal Procedures. A student may appeal a grade on the grounds that it is based on a capricious or arbitrary decision of the course instructor. Such an appeal shall follow the established procedures adopted by the department, college, or school in which the course resides or in the case of graduate students, the Graduate School. These procedures are available in writing from the sociology department chairperson or the Academic Dean of the College of Letters & Science. Procedures for undergraduate student grade appeal can be found at: https://uwm.edu/letters-science/advising/answers-forms/policies/appeal-procedure-for-grades

Final Examination Policy. Policies regarding final examinations can be found at the following: http://www4.uwm.edu/secu/docs/other/S22.htm

Book Royalties. In accord with Department of Sociology policy, the royalties from the sale of faculty-authored books to students in their classes are donated to a UWM Foundation/Sociology Account to support future awards and activities for UWM students in Sociology.