

**Sociology 321**  
**Quantitative Techniques in Sociology I**  
**Spring 2009**

Classes: Monday, Wednesday, 10:35-11:50  
 Labs: Friday, 11:00-11:50, or 12:00-12:50

Professor: Alair MacLean, VMMC 202H,  
 360-546-9177, [maclea@vancouver.wsu.edu](mailto:maclea@vancouver.wsu.edu)

Office hours: Monday, 12:00-1:00, main café, in the Admin Building;  
 Wednesday, 12:00-1:00pm, VMMC 202H,  
 or by appointment

Teaching assistant: Erin Bobeck, VCLS 108,  
 360-546-9215 or 360-546-9742, [efossum@vancouver.wsu.edu](mailto:efossum@vancouver.wsu.edu)

Office hours: Monday, Tuesday, 9:30-10:30,  
 or by appointment

**Course Description and Goals**

This is a course designed to introduce students of sociology, public affairs, and the social sciences, more broadly, to statistical analysis. This class consists of two parts. First, you will learn about descriptive statistics, the numbers (means, standard deviations, proportions, correlations, and regression coefficients) that describe a collection of data. Then you will learn about inferential statistics, which use the characteristics of a sub-set of the population (or sample) to make conclusions about the larger population. There are a limited set of statistics that we will focus on in this class, and you will learn how to apply an even smaller set of skills to each of these. Below is a table that graphically presents the statistics that you will learn and the skills that will be applied to each. (We will touch on a few other statistics, including the mode and median, as well as learn ways of graphically summarizing these statistics, but the bulk of the course will be spent on the topics in the table. We will most likely not cover regression as fully as we will means and proportions.)

Table 1. Statistics and skills to be learned in Soc. 321

	<u>Skills</u>		
	Calculating	Hypothesis tests	Confidence intervals
Means			
Proportions			
<u>Statistics</u> Standard deviation			
Correlation			
Regression			

The fact that by the end of the semester you will be able to apply these skills to these statistics will enable you to begin to: read popular applications of statistics in the media with a critical eye; assess the use of statistics in the academic literature; and use statistical tools to answer the statistical questions that interest you.

### **Prerequisites**

Sophomore standing and basic algebra skills. If you are not sure about your math skills, you should let us know **early** in the semester and we will try to find a tutor for you.

### **Course Materials**

#### *Required text*

Moore, David S. 2007. *The Basic Practice of Statistics*, Fourth Edition. New York: W.H. Freeman. [BPS]

#### *Web Resources*

Moore's text comes with many useful online supplements that will help you learn the material in the course (<http://bcs.whfreeman.com/bps4e>). This web-site has self-quizzes, additional exercises, statistical applets, and data sets. In addition, all of the materials on this web-site are on the CD that comes with your textbook.

#### *Calculators*

On the homework and exams, you will need to perform basic mathematical manipulations (e.g., adding, subtracting, multiplying, dividing, squaring, and taking square roots). Students are not allowed to use *programmable* calculators during exams. However, if you would like to use a calculator during the exams, you can use a 4-function calculator. (These are available at the Bookie for \$2-5.)

### **Required course work:**

#### *Exams*

There will be three non-cumulative, closed-book examinations held in class. I will drop 1 of the 3 mid-term exam grades for the calculation of your final grade. Because only 2 of the exams count towards your final grade, I do not give make up exams. If you miss one of the exams for any reason this is the grade that is dropped. A second missed exam cannot be made up for any reason. (If you complete all three exams, I will count the two highest grades.) There will also be a cumulative final exam during the final exam period.

Exams will include a combination of multiple choice and short answer items. They will focus on material assigned for and discussed in the lectures and labs leading up to the exam.

#### *Homework problem sets*

The problem sets are designed to give you hands-on experience applying the skills outlined in the columns of table 1 to the statistics outlined in the rows of that table. The homework assignments will therefore help you to achieve the goals of the course. They will also give you practice that will enable you to do well on the exams.

You will be expected to hand in problem sets by 10:35am, the beginning of class on Wednesday. The specific exercises in the problem sets will be announced in class on the preceding Wednesday. The TA will review solutions to the problem sets in lab on the Friday after the assignments have been submitted.

Homework will be graded according to the scheme shown below in table 2. The homework will be graded according to the following components: proportion correct and proportion fully documented. For example, if all the answers are correct and all are fully documented, the homework will receive a grade of 10. If fewer than 50 percent of the answers are correct, and fewer than 50 percent are fully documented, the homework will receive a 2.

Table 2. Homework grading rubric

		<u>Answers</u>		
		>90% correct	89-50% correct	<50% correct
<u>Documentation</u>	>90% documented	10	9	6
	89-50% documented	9	8	4
	<50% documented	6	4	2

Homework that is handed in late will be dropped down two points for each day late (e.g., homework that is handed in after 10:35am on Wednesday but before 10:35am on Thursday that would have received a 10 will receive an 8). There are 11 homework problem sets. As with the exams, you will be able to drop the lowest grade.

### Grading and Evaluation

These are the standards for your overall grade.

A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D	60-69

Because students have different learning styles, you may choose from one of two options for the calculation of your final grade. The two options are outlined below. You should use the form at the end of the syllabus to indicate which of the options you would like to be graded under. This form must be submitted by 10:35am, the beginning of the fourth class, January 21. If I do not have the form on file, I will assume that you have chosen option A.

You may track your progress toward your final grade using one of the panels from table 3 below, depending on which grading option you choose. We will hand back work that has been graded according to option A (e.g., the problem sets will receive grades of 10, and the mid-term exams will receive grades of 100). If you choose option B, you will need to

convert the number grades according to that option if you want to track your grade. I will do this conversion at the end of the semester to calculate your grade.

Table 3. Grading options for Sociology 321

Option A:

	Percent	Total points	Points each	Percent each	Your percent
Exams 1-3 (best 2)	40	200	100	20	
Final exam	30	150	150	30	
Problem sets (best 10)	20	100	10	2	
Participation	10	50	50	10	
	100	500			

Option B:

	Percent	Total points	Points each	Percent each	Your percent
Exams 1-3 (best 2)	60	192	96	30	
Final exam	30	96	96	30	
Problem sets (best 10)	5	16	1.6	0.5	
Participation	5	16	16	5	
	100	320			

### Labs

The labs have three purposes:

1. Previewing the homework: Providing you with hints for how best to complete the homework due the following week;
2. Reviewing homework that has been handed in – this represents the best avenue for getting detailed feedback on your homework;
3. Reviewing material to help you prepare for the exams.

### Course Expectations and Guidelines

#### *Academic Honesty and Plagiarism*

University policy states that academic integrity is the cornerstone of the university and will be strongly enforced in this course. Any student found in violation of the academic integrity policy will be given a 0 for that assignment or exam and will be referred to the Office of Student Conduct. If the student violates academic integrity a second time, he or she will receive a 0 for the course, as well as being referred to the Office of Student Conduct.

In previous versions of this class, the most common violations of academic integrity involve students handing in identical homework assignments. I encourage you to work with your classmates on your homework and exam preparation. You should not, however, hand in work that has simply been copied from someone else. The best way to ensure that you don't

do this is to make sure that you write up your answers separately, after working through the problems with another person or a group. For additional information about WSU's Academic Integrity policy/procedures please contact (360) 546-9781.

If you have any questions about any of this, please bring it up either privately with me during office hours or through email or for discussion with the class. We can all benefit from more discussion of this topic.

### *Class Attendance*

Students are expected to attend all lectures and labs and are responsible for all material and announcements presented there. Because statistics classes are cumulative, your chances of doing well in any statistics course dramatically increase with each class that you attend.

### *Classroom Etiquette*

1. Plan to arrive on time and leave at the scheduled end of the class.
2. Please turn off your cell-phone at the beginning of lecture or an exam. If you are expecting an emergency call during a lecture, please put your cell-phone on silent mode. Let me know if you are expecting an emergency call during an exam, and we will try to work something out.
3. You may use your laptop to take notes in class. If you wish to use a laptop, plan to sit in the front row.
4. Remain in the classroom during the time that you are working on an exam. If you leave during that time for any reason, I will assume that you have finished and I will collect your exam.

### *Communication*

When you communicate with me, please address me as Professor MacLean. For useful tips on how to email your professors, please see following post:

<http://mleddy.blogspot.com/2005/01/how-to-e-mail-professor.html>. I will respond to e-mail during regular working hours, 9am-5pm, Monday through Friday.

### *Disability Accommodation*

Accommodations may be available if you need them in order to fully participate in this class because of a disability. Accommodations may take some time to implement so it is critical that you contact Disability Services as soon as possible. *All* accommodations *must* be approved through Disability Services, located in the Student Resource Center on the Lower Level of Student Services Center (360) 546-9138.

### *Emergency Notification System*

WSU has made an emergency notification system available for faculty, students and staff. Please register at myWSU with emergency contact information (cell, email, text, etc). You may have been prompted to complete emergency contact information when registering for classes on RONet. In the event of a Building Evacuation, a map at each classroom entrance shows the evacuation point for each building. Please refer to it. Finally, in case of class cancellation campus-wide, please check local media, the WSU Vancouver web page and/or <http://www.flashalert.net/>. Individual class cancellations may be made at the discretion of the instructor. Each individual is expected to make the best decision for their personal circumstances, taking safety into account.

*Other random concerns*

The University regularly conducts student evaluations of all professors and teaching assistants near the end of the semester. Students who have more immediate comments, compliments, or concerns about this class should discuss them with Professor MacLean or with Professor Clayton Mosher, Associate Chair, Sociology Department, 202B VMMC (360) 546-9439 ([cmosher@vancouver.wsu.edu](mailto:cmosher@vancouver.wsu.edu)).

**Tentative Course Schedule:**

Because students vary in both their exposure to and competence with various materials, I reserve the right to alter the course schedule. These alterations may include lengthening, shortening, rearranging, adding, or even eliminating various topics that are listed below. I will always make class announcements prior to altering the course schedule. The student is responsible for all class announcements.

Week	Date	Lecture	Reading	Assignments	Lab
1	M Jan 12	Overview			
	W Jan 14	Graphing Distributions	<i>BPS</i> : Ch. 1		Overview, preview homework
2	M Jan 19	<i>Martin Luther King Day</i>			
	W Jan 21	Describing Distributions	<i>BPS</i> : Ch. 2	<i>BPS</i> exercises (ch. 1)	(P)review homework
3	M Jan 26	The Normal Distribution	<i>BPS</i> : Ch. 3		
	W Jan 28	The Normal Distribution (cont.)		<i>BPS</i> exercises (ch. 2-3)	Review homework; prepare for exam
4	M Feb 2	Review and catch- up			
	W Feb 4	EXAM #1			Preview homework
5	M Feb 9	Scatterplots and Correlation	<i>BPS</i> : Ch. 4		
	W Feb 11	Regression	<i>BPS</i> : Ch. 5	<i>BPS</i> exercises (ch. 4)	Review homework, review exam
6	M Feb 16	<i>President's Day</i>	<i>Holiday</i>		
	W Feb 18	Regression (cont.)		<i>BPS</i> exercises (ch. 5)	(P)review homework
7	M Feb 23	Cross-tabs	<i>BPS</i> : Ch. 6		
	W Feb 25	Producing data: samples	<i>BPS</i> : Ch. 8	<i>BPS</i> exercises (ch. 6)	Review homework; prepare for exam

Week	Date	Lecture	Reading	Assignments	Lab
8	M Mar 2	Review and catch-up			
	W Mar 4	EXAM #2			Preview homework
9	M Mar 9	Producing data: experiments	<i>BPS</i> : Ch. 9		
	W Mar 11	Probability	<i>BPS</i> : Ch. 10	<i>BPS</i> exercises (ch. 8-9); producing data exercise	(P)review homework, review exam
	March 16-20	<i>SPRING</i>	<i>VACATION</i>		
10	Mar 23	Sampling Distributions	<i>BPS</i> : Ch. 11		
	W Mar 25	Confidence intervals	<i>BPS</i> : Ch. 14	<i>BPS</i> exercises (ch. 10-11)	(P)review homework
11	M Mar 30	Confidence intervals (cont.)			
	W Apr 1	Significance Tests	<i>BPS</i> : Ch. 15	<i>BPS</i> exercises (ch. 14); confidence interval exercise	(P)review homework
12	M Apr 6	Significance Tests (cont)			
	W Apr 8	Inference in practice	<i>BPS</i> : Ch. 16	<i>BPS</i> exercises (ch. 15)	Review homework; prepare for exam
13	M Apr 13	Review and catch-up			
	W Apr 15	EXAM #3			Preview homework
14	M Apr 20	Inference about a mean	<i>BPS</i> : Ch. 18		
	W Apr 22	Comparing two means	<i>BPS</i> : Ch. 19	<i>BPS</i> exercises (Ch. 16, 18); significance test exercise	(P)review homework

Week	Date	Lecture	Reading	Assignments	Lab
15	M Apr 27	Inference about a population proportion	<i>BPS</i> : Ch. 20		
	W Apr 29	Putting it all together		BPS exercises (ch. 19-20)	Review homework; prepare for exam
16	TBA	FINAL EXAM			

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I, \_\_\_\_\_, would like to have my grade composed of the option A / B grading plan (circle the appropriate letter).

This form must be on file with Professor MacLean by the beginning of class on Wednesday, January, in order for your work to be graded according to the option B grading plan.<sup>1</sup>