

OGLALA LAKOTA COLLEGE COURSE SYLLABUS & ADMINISTRATION Spring 2014 Rebuilding the Lakota Nation through Education Wounspe Ihuniyan Hci Lakota Oyate Kin Akta Ic'icakagapi Kte lo

Course Number: SoSc 313

Credit Hours: Three (yamni)

Time & Day: Wednesdays 5:00 – 8:00

Name of Course: Statistics for Social Science

Department: Humanities & Social Science

Location: He Sapa (Rapid City) Center; Section 81

Instructor's Name: Kirk Costion, Ph. D.

Email: kcostion@olc.edu (this is the best way to get a hold of me)

Office Hours: I will be available for questions before and after class or by appointment.

Course Description (Waunspe Oyakapi):

This course is suitable for students who have not taken statistics courses before. At the most basic level, research in the social sciences tends to start out as counts or measurements of things regardless of whether they are household incomes, disease frequencies, archaeological sites, or even people's opinions. As a result, all students engaged in research projects need to be familiar with statistical techniques to work with their own data as well as to be able to critically interpret other researchers' interpretations. However, statistical applications in the social sciences differ in important ways from those in the physical or natural sciences, as social scientists are often required to interpret patterns from smaller, and differently biased, data samples.

This is an intensive, hands-on course that requires you to spend considerable time in and outside of class completing various exercises. The approach taken here will emphasize sampling and sampling procedures, since all social scientists must (by virtue of finite time and money) work with samples in one way or another. Every week we will use exercises that reference actual datasets from different social sciences.

Throughout this semester we will regularly be using the program Microsoft Excel to help us perform many of the statistical calculations we will be conducting in this course. Although Excel is not a program designed specifically for statistical analysis, it can be used to perform the calculations we need to use in this course. I chose to use Excel for this course because it is widely available and thus is a program you are likely to have access to once you graduate. Excel is available on all OLC computers so everyone in this class will have access to this program.

Prerequisites:

Math 103 (Elementary Algebra)

Required Text and Materials:

There is <u>no required textbook</u> for this course. We will instead rely on handouts, class activities, and excellent note taking on your part. This course will utilize the instructor's webfolder located at <u>http://warehouse.olc.edu/~kcostion/webfolder/</u>. Our class has its own folder called Stats for Social Science. Required readings will be placed in this folder as either Adobe Acrobat (.pdf) or Microsoft Word (.doc) files, organized alphabetically by document name. For example, if a 1938 article by Laurel and Hardy is assigned as homework, it will appear in the webfolder as *Laurel&Hardy_1938.pdf*. To download the reading to your own computer or flash drive, you must right-click the file name, and choose the Save As option, and save the document where you like. Each week I will post the notes for our class before class starts, these notes will be your 'textbook'' for this class so it will be in your benefit to download them every week. It will be your responsibility to check this link as appropriate as the semester progresses as I will not be handing out class notes or readings in class. If you miss class it is your responsibility to get both the notes and the homework for that class from the webfolder.

You are also <u>required</u> to buy a good calculator with a square root button to bring to class and to use at home while doing your homework. Although possible to do without calculators if you are really good at mental math, many of the problems you will be doing in this course will be made substantially easier with the aid of a calculator. I cannot provide calculators to students on a regular basis so you will need to have your own for this course. Please note that cell phone calculators are often very simple and not sufficient for this course.

Recommended texts include:

Drennan, Robert D.

1996 *Statistics for Archaeologists: A Commonsense Approach.* Plenum Press, New York. (This book is the one I used to learn statistics and many of the handouts I use in the course will be based on examples found in this book. However, as the title suggests this book is targeted toward archaeologists)

Salkind, Neil J.

2010 *Statistics for People Who (Think They) Hate Statistics* (Second Edition: Excel 2007 Edition). Sage, Los Angeles. (This book provides a good introduction to statistics in addition to very good instructions for how to do statistics utilizing Microsoft Excel)

Urdan, Timothy C.

2005 *Statistics in Plain English.* Lawrence Erlbaum Associates, Publishers, Mahwah, New Jersey. (This book presents the basics of statistics in a very straightforward manner and uses many good examples to demonstrated statistical principles and methods)

Course Goal:

Students will gain knowledge of the most important basic analytical statistical techniques used in the social sciences so that they can both analyze real world statistical data and interpret statistical results reported in social since publication.

Learning Objectives (Wounspe Taku Unspepi Kte Kin He Le E): The objectives of this course are to explore a number of quantitative analytical techniques so that upon completion you will be able to:

1) Manage and analyze social science data.

2) Communicate your quantitative results to public and scholarly audiences.

Assessment:

The course objectives will be assessed with homework assignments and in class exams.

Instructional Methodology:

This course will be taught utilizing the lecture-discussion format and you will also have time to begin your homework projects in class each week. I will primarily be making use of the classroom board to demonstrate statistical techniques. However, we will also at times make use of computers during certain class periods in order to use Microsoft Excel and some Internet tools to aid us in our calculations.

Course Rationale:

This course exists to help students gain the basic statistical skills and knowledge that are needed to conduct research within the social science disciplines and so that students can understand results reported in professional articles and reports.

Homework:

According to national standards, each student should expect to spend two (nunpa) to three (yamni) hours out of class on homework assignments each week, for every hour of class time (each credit hour), in order to perform satisfactorily. Therefore, if a course is three (yamni) credit hours you should spend approximately six (sakpe) hours outside of the course room on homework. However, every student differs in their individual skills, educational background, experience, capability and personal goals; so the amount of time you must dedicate to out of class work can vary significantly from this national average.

Reading Load:

This is a practice based class with very little required reading, however each week lecture notes will be posted online in my webfolder (see above), reading through these notes prior to class will be greatly beneficial to students. In addition, these notes will be very helpful to students while working on their homework projects during the week.

Lakota Perspective Provided Through:

This course stresses Wolakotakiciapi of "learning Lakota ways of life in the community". This course is based on the values of mutual respect and generosity (woohola na wochantognakapi), seeking to advance each individual's knowledge through their continuing hard work (fortitude- wowalitake) and willingness to learn new information and viewpoints, as well as to demonstrate it, by speaking in front of the group (bravery-woohitike); all undertaken in an environment of complete truthfulness, trust, integrity and humility. We will do this by embracing the teaching of our ancestors as we learn new ways. (Waunspe wicakiyapi ki iglutanyan ihani unpi kun hena itan waunspe tokeca uha ayin kte.) SoSc 313

Evaluation and Grading:

Midterm Exam	150 pts. (15%)
Final Exam	150 pts. (15%)
In Class/Homework Projects	500 pts. (50%)
Participation	200 pts. (20%)
TOTAL	1000 pts (100%)

Grading Rubric

	U		
A =	1000-920	C+ =	799-770
A- =	919-900	C =	769-730
B+=	899-870	C- =	729-700
B =	869-830	D+ =	699-670
B- =	829-800	D =	669-630
		D- =	629-600
F = 599 and below			

A = Superior Quality Work = Demonstrated concept mastery by scoring 90% or better.

B = Good Quality Work = Demonstrated concept mastery by scoring 80-89%.

C = Satisfactory Quality Work = Demonstrated concept mastery by scoring 70-79%.

D = Marginal Quality Work = Demonstrated weak concept mastery by scoring 60-69%

F = Demonstrated concept mastery below the acceptable mark of 60%.

W = Withdrawal = A student may withdraw from a course by filling out a Drop Card to be recorded by the Registrar. The student must sign this form if you drop yourself. A Drop Card may/can be filled out and signed by a counselor/instructor for lack of attendance.

You can check your grades in this course throughout the semester using Jenzabar gradebook. However, the Jenzabar gradebook is **NOT** the official gradebook for the course. The grades posted on Jenzabar are there to give you a general idea of how you are doing in the course and could differ from your official grades for the course.

You will be assigned various **In Class/Homework Projects** through the course of this semester. These will be assigned just about every week; you will be expected to complete 10 projects over the course of the semester. We will get a start on each project in class, but the remainder of the work is intended to be done as homework, ideally with a small group of your fellow classmates. These projects are designed to give you a practical, hands-on introduction to statistical practice and often use real datasets from various social science research projects. Although I encourage you to work with your classmates on these projects, each student is expected to turn in his/her own work in his/her own words. You **CANNOT** turn in a project with multiple names on it and expect each person to get full credit for the assignment; if this happens credit for the assignment will be split evenly amongst those who turned it in. Please note that these projects make up 50% of your overall grade in the course, each project is worth 5% of your grade. So it is imperative that you do your best on each project and make sure to turn every one in on time. Simply put, there is no way to pass this course if you do not regularly do your homework and turn it in on time.

The **Exams** will require you to use many of the statistical principles learned in class *without* the benefit of a personal computer. You are allowed your hand written notes, a personal calculator, and I will provide you a sheet of the formulas that you will need. The exam will present you with short problems or scenarios that you are expected to solve. The in class/homework projects are designed to introduce you to such problems or scenarios, and should serve as convenient study guides for your exam.

Your **Participation** grade is related to the initiative one takes to come to class prepared and to ask questions actively. Minimally, half of this final grade is earned by simply adopting a professional approach that would be expected in any future job (essentially the Lakota concept of *Waohola*). This means missing no more than one class (unexcused) and showing respect to other individuals in the class. I encourage you to voice your disagreements or concerns with me or others in the class when they arise, but Lakota conventions of respect in formal situations dictate that we frame any disagreements on professional (rather than strictly personal) grounds, and allow equal opportunities for opposing viewpoints to be explained. Respectful behavior also involves not annoying or distracting other students by talking, reading newspapers, repeatedly arriving to class late, doing something other than taking notes with one's laptop, falling asleep, or eating loudly.

Cell phones should be turned off for class and kept in your bags or pockets. If you *need* to have your cell phone on, please turn it to vibrate and take any calls outside the classroom. If I see you texting in class I will ask you to leave the classroom. This syllabus constitutes the only warning on this count, and points will be subtracted from offenders.

The other half of your participation grade is earned by answering and raising questions in class and making honest efforts with in-class exercises. You participation grade is not influenced by being 'right' or the most outspoken individual in the room; it is simply influenced by the amount of personal effort you make in this class. For those who find talking in class intimidating, scheduling times to talk with me individually are an appropriate time to discuss class issues one-on-one. I am always happy to discuss issues and concerns over email. Since everyone has the occasional bad or quiet day, particularly active participation in one class can make up for a general lack of participation in another, however, consistent or improving participation will be valued higher.

Each week you will be given a substantial amount of class time to work on your in class/homework projects. If you choose to leave the class early instead of taking advantage of this time to work with your fellow students and myself on your projects you will not receive any participation points for that day. Basically if you leave class after lecture you will receive a check minus for the day, but if you stay to work on your project you will receive a check for the day.

Late Work. Make Ups, Extra Credit, and Other Course Policies Exams:

Make-up exams will only be granted to students who have an officially documented excuse for missing the scheduled exam. Missing an exam due to an undocumented excuse will generally result in a zero score. Please plan ahead. Requests for make-up exams must consist of (a) one typed, double-spaced page explaining the reason for missing the exam, and (b) relevant corroborating documentation such as a doctor's note (if appropriate). Both must be in my hands within one week before or after the scheduled exam date.

In Class/Homework Projects:

Exercises are due at the beginning of the class the following week. For example, the exercises assigned in Week 2 are due at the beginning of Week 3's class. The exercises listed in Week 3 are due at beginning of Week 4's class, and so on. I do not want to see you working on your assignments in class as we are going over them, if I do your assignment will be considered late. If you are absent from class it is **your** responsibility to get the homework assignment for the class you missed from my webfolder and to have it done by the next time you are in class. Not being in class is not a valid excuse for not having your homework.

Projects turned in one day late will be reduced by five-percentage points (5%) (keep in mind that I am only at this center once a week so to turn your project in a day late you will need to scan your work and e-mail it to me or have center staff sign and date your project when you turn it in to my mailbox). Projects turned in between two days and one week late will be reduced by ten-percentage points (10%). Projects turned in more than one week late will be reduced thirty-percentage points (30%). The absolute last day to turn in late projects assigned before the midterm exam will be **March 10th** and the absolute last day to turn in late projects assigned after the midterm exam will be **April 28th**. It is imperative that you do not get too far behind with your projects, not only will you receive substantially reduced grades if your projects are turned in late but you will also begin to fall behind in the skills needed to do well in the course. Please make sure to make and maintain a personnel copy of any projects turned into my mailbox in the office, do not turn in the your only copy.

Requests for extensions on your projects must consist of (a) one typed, double-spaced page explaining the reason for not finishing the project, and (b) relevant corroborating documentation such as a doctor's note. Both must be in my hands before or within one week after the exercise due date. Extensions will not be granted simply because you did not have time to work on your project, you will need a legitimate documented excuse for not finishing.

Extra Credit:

There will be no extra credit assignments available to you throughout this course, so please plan accordingly.

College Policy on Grading and Change of Grades:

http://www.olc.edu/~jchasinghawk/registrar/docs/student_handbook.pdf see pages 10 and 11

In case of unexpected happenings that prevent a student from finishing the course work on time, the student can contact the instructor and ask for an extension. Such an extension is only granted if the student has acquired between 40 and 69% at the end of the semester and is counted as present for at least 11 weeks. In addition, the student must have a properly documented legitimate excuse (such as an extended hospital stay) for not finishing their work before the end of the semester. My general policy is that grades for work that is handed in after the end of the semester are reduced by 50%. Also, additional work will only be accepted until the beginning of the following semester. The highest grade that can be achieved after a grade change is a C (exceptions at the discretion of the instructor). Grade changes will **only** be granted to those students with legitimate excuses for not finishing the course work on time; you **cannot** obtain a grade change simply because you are not happy with your final grade. It is the responsibility of the student to contact the instructor to make arrangements for a grade change; if you do not finish your course work and do not make arrangements for a grade change with the instructor you will receive a grade for the work completed. This instructor does not give any incompletes under any circumstances.

Attendance and Tardiness Policies:

Because OLC offers classes in three-hour blocks once per week, (for everyone's travel convenience), if you are absent from one OLC class session, it's like missing three classes at another college. A student must be in class for two hours to be counted as present.

http://www.olc.edu/~jchasinghawk/registrar/docs/student_handbook.pdf see pages 7 and 8

Students are required to attend classes regularly. Instructors will submit attendance on-line weekly to the end of the semester.

If a student wishes to be excused from a class, it is the **student's** responsibility to clear the absence with the instructor. At that time the student must arrange for a makeup assignment. However, an excused absence is the same as an absence until the student has completed work equivalent to being in class within **one week** of the absence. Once the make-up assignment is completed, the instructor may then change the absent to present depending on the circumstances and the quality of the work. This will only apply to no more than two absences. (Note: it is the policy of this instructor, given the nature of this course, that there will be **no way** to make up an absence whether it is excused or unexcused; make-up assignments simply cannot replace a class period for this course). As a result it is absolutely imperative that you are in class every week.

A student will be dropped from a course after **three consecutive** absences and will be dropped by the Registrar after **five total** absences (this includes excused absences). There are **NO** reinstatements and **NO** exceptions for students who are dropped for five absences. Students who miss the first two classes of the semester will be dropped from this course by the instructor.

The content of this course continually builds upon itself so missing just one class could potentially put a student irrevocably behind. As a result, it is absolutely imperative that your are in class.

January 31st is the last day you can drop this course for a full refund; after this date if you drop the course you will receive a Withdrawal (W) grade for the course that will appear on your official transcript.

If the Instructor is not present at the beginning of the class, and the College Center Staff has not heard from the Instructor, you should wait at least 30 minutes past the normal start-time and then if the Instructor has still not arrived, you may leave.

Policies on Academic Honesty and Plagiarism:

http://www.olc.edu/~jchasinghawk/registrar/docs/student_handbook.pdf see page 46

Plagiarism (copying the work of others, or using the work of others without proper citations) and all other forms of cheating will not be tolerated and can lead to a failing grade in the class, or expulsion from the college. Although you are highly encouraged to work with other students on your exercise dataset to save yourselves time, you are expected to independently write up your own results. Abrupt changes in the writing tone or tempo through the course of a paper, or two or more papers that sound suspiciously alike, are all it takes to begin an investigation that can have very severe consequences.

Standards of Conduct Policy:

http://www.olc.edu/~jchasinghawk/registrar/docs/student_handbook.pdf see page 38

ADA Policy:

http://www.olc.edu/~jchasinghawk/registrar/docs/student_handbook.pdf see pages 37 and 38

I realize that some students need special accommodations. If you have a disability that requires special testing accommodations or other classroom modifications, please notify me *and* the EAP/Director of Student affairs. You may be asked to provide documentation of your disability to determine the appropriateness of accommodations. To notify EAP/Director of Student affairs, call (605) 455-6040; whose office is located in the Piya Wiconi center near Kyle.

Academic Freedom Policy:

Academic freedom is the absence of restrictions placed upon the spirit of investigation, free inquiry and open discussion. In this spirit, the instructor exercises a professional judgment to select and interpret ideas, and the student has the right to challenge ideas and interpretations. (Basically this means that you should feel free and are encouraged to express your opinions in this class, either in discussions or in your written work, even if you disagree with the instructor. Your grade in the course will not be detrimentally affected by expressing an opinion that is contrary to the instructor's)

Class Cancellations:

It is **not** the policy of this instructor to cancel classes because of bad weather. We will have class regardless of bad weather or predicted storms unless the college center closes down. Thus, it is not a legitimate excuse to miss a class because it is snowing or raining; you need to plan accordingly and make arrangements to be in class even if the weather is bad. In the unlikely event that a class does need to be cancelled for weather or some other unforeseen reason I will inform the entire class via e-mail as soon as I know the class is cancelled. All cancelled classes need to be made up at some point during the semester.

OLC E-mail:

Students should check their OLC e-mail accounts at least twice a week for announcements related to this course. If you do not check your OLC e-mail account it is your responsibility to provide the instructor with an alternate e-mail address and check it at least twice a week. In addition, when you send me an e-mail please include your name in your message as not all e-mail address are clearly associated with the names on my class rosters.

Tentative Schedule of Lecture Topics and Assignments

Date	CLASSROOM TOPICS	ASSIGNMENTS
Jan. 22	Class Logistics & Introduction to Statistics	
Week 1		
Jan. 29	Exploring Numerical Batches	Stem-and-Leaf Plot & Histogram Project Assigned
Week 2	Stem-and-Leaf Plots and Histograms	
	Class is held today even though it is Labor Day	
Feb. 5	Measures of Central Tendency	Stem-and-Leaf Plot & Histogram Project Due
Week 3	Mean, Median, & Mode	Measures of Central Tendency Project Assigned
Feb. 12	Measures of Variability	Measures of Central Tendency Project Due
Week 4	Range, Variance, and Standard Deviation	Measures of Variability Project Assigned
Feb. 19	Categorical Data	Measures of Variability Project Due
Week 5		Categorical Data Project Assigned
Feb. 26	Midterm Exam Review Day	Categorical Data Project Due
Week 6	Finish up anything we didn't get to	
Mar. 5	MIDTERM EXAM	Same Time Same Place
Week 7		
Mar. 12	Samples & Populations	All Past-Due Homework Projects Assigned Before the Midterm Exam Due!
Week 8		Sampling Strategies & Sampling Bias Project Assigned
Mar. 19	Spring Break No Class!!!	
Mar. 26	The Normal Distribution	Sampling Strategies & Sampling Bias Project Due
Week 9		Normal Distribution Project Assigned
Apr. 2	Standard Error, Confidence & Population Means	Normal Distribution Project Due
Week 10	Most Important Class of Semester Do Not Miss!!!	Error Range & Confidence Level Project Assigned
Apr. 9	Comparing Two Sample Means	Error Range & Confidence Level Project Due
Week 11	t Tests	t Tests Project Assigned

Note: The instructor may modify the course content and schedule during the term

Apr. 16	Comparing Proportions of Different	t Test Project Due
W 1 10	Samples	
week 12	Chi-Square Test	Chi-Square Test Project Assigned
Apr. 23	No Class; Instructor at Conference	
Apr. 30	Relating a Measurement Variable to	Chi-Square Test Project Due
	Another Measurement Variable	
Week 13	Regression	Regression Project Assigned
May 7	Final Exam Review Day	All Past-Due Homework Projects Assigned After
		the Midterm Exam Due!
Week 14	Finish up anything we didn't get to	Regression Project Due
May 14	FINAL EXAM	Same Time Same Place
	**There will be no opportunity to	
Week 15	makeup the final exam**	

Disclaimer:

Information contained in this syllabus was, to the best knowledge of the instructor, considered correct and complete when distributed for use at the beginning of the semester. However, the instructor reserves the right to make changes in course content or instructional techniques without notice or obligation. Students will be informed of any such changes. Additional student rights and responsibilities are outlined in the Student Handbook.