

**Course Code & No. - Section:** Math 251 - Section 2  
**Course Title (Credits):** Statistics (4)  
**Term & Year:** Spring / 2014  
**Course Ref. No. (CRN):** 10135

**Instructor:** Katie Larkin  
**Email:** [klarkin@sierranevada.edu](mailto:klarkin@sierranevada.edu)  
**Office Hours:** By appointment

**Class Meeting Time:** MW 4:00 – 5:45 p.m.  
**Location:** PL 213

**Prerequisites:** MATH 101, or MATH 110, or permission from the instructor

### Course Description

An introductory statistics course covering sampling, experimentation, exploratory data analysis, statistical inference, and drawing conclusions from data. Single variable data sets, paired data, and categorical data. Laws of chance and probability theory.

### Student Outcomes

The learner will experience/participate in/explain and perform the following: preliminary data analysis; descriptive statistics; probability theory; inferential statistics for single through multiple samples using some parametric and nonparametric methods; regression and correlation, and use of technology to ease the burden of discovery and computation with emphasis on interpretation; use of standard statistical tables; data collection, analysis and presentation of both and oral and written reports of procedures and findings.

The learner will be able to make better, informed decisions under conditions of uncertainty and variability and will:

- Use data to objectively analyze academic questions and improve decision making;
- Present data or results informatively;
- Apply statistical concepts to disciplines of interest;
- Understand data when it is presented and ask useful and probing questions and respond appropriately.

**Course and SNC Mathematical Goals:** Actually, the student should be all he or she can be mathematically at graduation. The course is designed to guide SNC students towards mathematical proficiency by providing opportunities where students may practice and demonstrate:

1. A sense of number and the ability to discern whether a proposed numerical answer to a problem is reasonable – the ability to think correctly about numbers and to use data to make intelligent decisions in life.
  2. The ability to use mathematical knowledge to confront unfamiliar problems both in concrete and abstract situations – modeling a mathematical problem in several ways to facilitate a solution.
  3. The ability to discuss the mathematical ideas involved in a problem with other people and to write coherently about mathematical topics and their interrelations.
  4. General reasoning powers – understanding of mathematical implication and knowledge of why various mathematical statements follow from more basic ideas.
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5. General algebraic proficiency – the ability to manipulate algebraic expressions -- an understanding of the interrelationships between the symbolic, numeric, and graphic representations of real-world phenomena.
6. The ability to visualize, compare, and transform problems geometrically – an understanding of the connections between algebra and geometry.
7. An understanding of the uses of mathematics in other disciplines and the use of technology in the solution of mathematical problems.
8. The ability to gather, organize, display, and summarize data – the ability to draw conclusions or make predictions from data.

The Mathematical Association of America's (MAA) Committee on the Undergraduate Program in Mathematics (CUPM) in developing future mathematics curriculum has made the following preliminary recommendations

- Students should achieve mastery of rich and diverse set of mathematical ideas and should experience mathematics as an engaging field with contemporary open questions.
- Students should be able to think analytically and critically, to formulate and solve problems, and to interpret their solutions. They should understand and appreciate the value and validity of careful reasoning, precise definition, and close argument.
- Students should have experience applying knowledge from one branch of mathematics to another and from mathematics to other disciplines.
- Students should be able to use a variety of technology tools.
- Students should be able to communicate mathematics both orally and in writing; they should be able to read mathematics.

### **Methods of Assessing Student Outcomes**

Labs, homework, in class participation, quizzes, projects, exams.

### **Instructional Strategies**

Lecture/Modeling/Demonstration/Examples/Practical Exercise/Active Participation/Cooperative Learning/Homework/Examination

### **Required Texts and Materials**

1. Collaborative Statistics by Illowsky & Dean (<http://cnx.org/content/col10522/latest/>)
2. StatCrunch

### **Class Requirements**

- Labs – 25%
- Quizzes – 10%
- Project 1 (3/10/14) – 10%
- Midterm (3/24/14) – 20%
- Project 2 (4/28/14) – 10%
- Final Exam (5/9/14) – 25%

### **Grading Policy**

All exams and assignments will be graded on the following straight scale:

A: 90 - 100%, B: 80 – 89%, C: 70 - 79%, D: 60 - 69%, F: Below 60%

### **Attendance Policy**

Attendance will be recorded but will not directly affect your grade. However, if you miss a class in which an assignment was given, you will not be able to make it up.

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**Homework Policy**

Suggested homework exercises will be assigned for each chapter from the text. Odd numbered exercises have solutions. Homework will not be collected nor graded, but these exercises are indicative of test questions.

**Lab Policy**

Labs will be completed in groups and will be expected to be completed during class time. If a group cannot finish a lab in the allotted time, they are responsible for completing it on their own. The lowest lab score will be dropped.

**Quiz Policy**

One quiz will be given per chapter and taken during class time. Each student will complete the quizzes individually. They will consist of 10 multiple choice questions. The lowest 2 quizzes will be dropped.

**Project Policy**

Two projects will be assigned throughout the semester. Each project is worth 10% and must be completed in groups of 2 outside of class. There will be a 10% penalty if done individually. Detailed instructions to come.

**Exam Policy**

There will be one midterm and one final exam for this class. These exams will be taken in our regular classroom and StatCrunch will be required. Exams cannot be made up unless an arrangement has been made with me prior to exam day given an acceptable reason for missing. The midterm covers Chapters 1-6 and will give on Monday, Mar 24 from 4:00-5:45. The final covers Chapters 7-12 and will be given on Friday, May 9 from 6:30 – 9:30pm.

**How To Succeed In This Course**

- **Keep up with the work!** Statistics can be a difficult subject; it is **imperative** that you keep up with the work in this class! Pay attention to the schedule and don't miss assignments.
- **Come to Every Class Prepared!** Before each class you should read the appropriate material (see schedule). You should also be sure to review previous material and ask questions when necessary.
- **Make use of the Tutoring Center!** I have limited office hours, therefore it is imperative that you get the most out of my lectures and go to the Tutoring Center if you're having any trouble at all and need some assistance. The Tutoring Center, staffed with knowledgeable tutors, is located on the 3<sup>rd</sup> floor of Prim Library and is open for math drop-in tutoring. There are also computers available for use. Check out the website for more information: [SNC Tutoring Center](#)
- **Form study groups!** They can be a great source of help! You can work together on homework assignments, but you need to submit the answer you believe is correct.

**IMPORTANT DATES**

- **Jan 20:** MLK Jr Day – SNC closed
  - **Feb 17:** President's Day – SNC closed
  - **Mar 17 - 21:** Spring Break – SNC closed
  - **Mar 24:** Midterm (4:00 – 5:45)
  - **Apr 1:** Last day to change grade status or withdraw without academic penalty
  - **May 7:** Study Day – No class
  - **May 9:** Final Exam (6:30 – 9:30pm)
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**Prim Library Resources**

Using the library's resources effectively (not just Internet resources) contributes to developing each of SNC's core themes by exposing students to high quality academic resources, diverse opinions, new ideas, and a future that includes building on a liberal arts education. In this course, you will be expected to utilize the library's resources (either on-site or remotely) as you complete your assignments.

**Sanctions for Cheating and/or Plagiarism****The Honor Code**

The faculty of SNC believes students must be held to high standards of integrity in all aspects of college life in order to promote the educational mission of the College and to encourage respect for the rights of others. Each student brings to the SNC community unique skills, talents, values and experiences which, when expressed within the community, contribute to the quality of the educational environment and the growth and development of the individual. Students share with members of the faculty, administration and staff the responsibility for creating and maintaining an environment conducive to learning and personal development, where actions are guided by mutual respect, integrity, responsibility and trust. The faculty and students alike must make diligent efforts to ensure high standards are upheld by their colleagues and peers as well as themselves. Therefore faculty and students accept responsibility for maintaining these standards at Sierra Nevada College and are obligated to comply with its regulations and procedures, which they are expected to read and understand.

**Consequences of Violating the Student Honor Code**

SNC students and faculty share the responsibility for maintaining an environment of academic honesty. Thus, all are responsible for knowing and abiding by the SNC Faculty/Student Honor Code published in the current SNC Catalog. Faculty are responsible for presenting the Honor Code and the consequences of violating it to students at the start of their classes AND for reporting all incidences of academic dishonesty to the Provost. Students are responsible for knowing what constitutes CHEATING, PLAGIARISM and FABRICATION and for refraining from these and other forms of academic dishonesty. Violations of the Honor Code become part of a student's academic record.

- 1<sup>st</sup> Offense: Student receives a zero for assignment/exam and counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
- 2<sup>nd</sup> Offense: Student fails course and receives counseling with faculty on the honor code, consequences for violating the honor code, and the value of academic honesty in learning.
- 3<sup>rd</sup> Offense: Student is expelled.

**ADA Accommodations**

In accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, students with a documented disability are eligible for support services and accommodations. If a student wishes to request an accommodation, please contact the Director of Academic Support Services, Henry Conover, at (775) 831-1314 x7534, [hconover@sierranevada.edu](mailto:hconover@sierranevada.edu), office in Prim Library: PL-304.

**The SNC Email System**

The SNC email system is the official communication vehicle among students, faculty members and administrative staff and is designed to protect the confidentiality of student information as required by the Family Educational Rights and Privacy Act of 1974 Act (FERPA). Students should check their college email accounts daily during the school year.

Students have a right to forward their SNC e-mail to another e-mail account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC e-mail forwarded to an outside vendor. Having email redirected does not absolve a

student from the responsibilities associated with official communication sent to his or her SNC email account.

**The Sierra Nevada College Mission Statement:**

Sierra Nevada College graduates will be educated to be scholars of and contributors to a sustainable world. Sierra Nevada College combines the liberal arts and professional preparedness through an interdisciplinary curriculum that emphasizes entrepreneurial thinking and environmental, social, economic and educational sustainability.

**The Core Themes:**

Liberal Arts

Professional Preparedness

Entrepreneurial Thinking

Sustainability

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## Tentative Class Schedule

## SNC - Math 251 - Section 2 - Spring 2014

Week	Date	Topic
1	M, 1/20	MLK Jr Day - No Class
	W, 1/22	Introduction & Ch 1
2	M, 1/27	Ch 1
	W, 1/29	Ch 2
3	M, 2/3	Ch 2
	W, 2/5	Ch 2
4	M, 2/10	Ch 3
	W, 2/12	Ch 3
5	M, 2/17	President's Day - No class
	W, 2/19	Ch 3
6	M, 2/24	Ch 4
	W, 2/26	Ch 4
7	M, 3/3	Ch 5
	W, 3/5	Ch 6
8	M, 3/10	Ch 6
	W, 3/12	Midterm Review
9	M, 3/17	Spring Break
	W, 3/19	Spring Break
10	M, 3/24	<b>Midterm: 4:00 - 5:45</b>
	W, 3/26	Ch 7
11	M, 3/31	Ch 8
	W, 4/2	Ch 8
12	M, 4/7	Ch 9
	W, 4/9	Ch 9
13	M, 4/14	Ch 9
	W, 4/16	Ch 10
14	M, 4/21	Ch 10
	W, 4/23	Ch 11
15	M, 4/28	Ch 12
	W, 4/30	Ch 12
16	M, 5/5	Final Exam Review
	W, 5/7	Study Day – No class
	F, 5/9	<b>Final Exam: 6:30 - 9:30 pm</b>

\* Schedule subject to change.