

MATH 251 (CRN 10371/10373) COURSE SYLLABUS Spring 2020

Course Code & No.: MATH 251
Course Title (Credits): Statistics (3)
Term & Year: Spring / 2020
Course Ref. No. (CRN): Sections AD2/WA2: 10371/10373

Instructor: Bary W Pollack
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Office: By appointment
Office Hours: By appointment

Class Meeting Time: n/a
Location: online

Prerequisites (from Catalog): none
Corequisites (from Catalog): none

SNC Canvas: <https://sierranevada.instructure.com/>
Bary's WWW: <https://www.sierranevada.edu/snow/>
Mirror WWW: <http://www.csci-snc.com>

Course Description (from the catalog)

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. Prerequisite: Passing MATH 101 or 110.

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

- 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.
- 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.
- The ability to discuss the mathematical ideas involved in a problem with other people and to write coherently about mathematical topics and their interrelations.
- General reasoning powers – understanding of mathematical implication and knowledge of why various mathematical statements follow from more basic ideas.
- 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.
- The ability to visualize, compare, and transform problems geometrically – an understanding of the connections between algebra and geometry.
- An understanding of the uses of mathematics in other disciplines and the use of technology in the solution of mathematical problems.
- 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

Homework problem solving assignments.

Instructional Strategies

This course will use Content Area Reading, Lectures, Conferences, Modeling, Demonstrations, Examples, Seminars, Practical Exercises, Active Participation, Cooperative Learning, Case Studies, Oral and Written Student Presentations, Homework, Examinations.

Required Texts and Materials

1. [Elementary Statistics, 11th ed.](#); Mario F. Triola; (c) 2010; ISBN-13: 978-0321500243.
2. A subscription to **MyStatLab** (available directly from Pearson) (roughly \$90 - \$100); <http://www.pearsonmylabandmastering.com/northamerica/>
3. A fully functional laptop computer, including wireless capability, AC power adapter, optional mouse.

Recommended Texts and Materials

None

Research Project: none

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.

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.

- 1st 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.
- 2nd 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.
- 3rd Offense: Student is expelled.

Grading Policy

Your **final grade** is based on the number of points you earn according to the information given in our online classroom.

There are no replacement assignments, alternative assignments, extra-credit, makeup assignments, re-dos, do-overs, or resubmissions in this course.

Incompletes and In-Progress

No incompletes or in-progress grades (I/IP) will be awarded. If you must drop, please do so before the official withdrawal date.

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, 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 email to another email account (for example, @hotmail or @gmail). However, confidentiality of student information protected by FERPA cannot be guaranteed for SNC email 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

Policies and Procedures

These policies are presented in an effort to provide you with as much guidance as possible regarding how to deal with this course. Learning any new skill, like programming, requires the investment of a significant amount of time, energy, effort, and dedication. These policies will “level the playing field” so that all students have an equal opportunity to excel.

Contacting your Instructor

I pick up telephone voice mail at most once each month – so email is preferred. I will respond as promptly as possible. **You MUST place MATH251 first in the Subject line of every email message.** Otherwise your email may well be treated as “spam.”

Technical Skills - Prerequisites

Student Success

The **prerequisites for MATH 251** are mastery of arithmetic and mathematics skills covered in high school. *In **ALL** my courses, I assume that you know how to work with personal computers, **Microsoft Windows**, the **Internet**, and **email**. If your background is deficient, you should remedy this situation immediately.*

Remember

This course will require your time and effort to succeed. There is **no “class curve”** for this course – you are evaluated on your **individual** efforts. My goal is to give everyone an “A” – and to feel comfortable that everyone here has mastered the subject matter.

Resources

Here are some websites that you may find useful:

<http://www.purplemath.com/modules/index.htm>

http://www.wtamu.edu/academic/anns/mps/math/mathlab/int_algebra/index.htm

<http://www.mathbits.com/>

Have fun!

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