Course Syllabus **Section #8891**
Math 15 Elem Statistics, Spring 2023 **M&W 2:00-4:00 in Kunde 202**

Instructor Information
Instructor: Cortney Schultz Office location: Kunde Hall 219
Email: cschultz@santarosa.edu Phone: (707) 527–4705

Office Hours: In-Person are held in Kunde 219 unless stated otherwise
Monday: 1-2PM & 4:30-5:30PM *Wednesday: 12-1PM (in Math Lab) & 4:30-5:30PM*
Tuesday: 1-2PM *Thursday 1-2PM*

Prerequisite/Corequisite: Completion of MATH 161 OR MATH 156 OR MATH 154 OR MATH 155 or AB705 placement into **Math Tier 1 or higher**

Math 15 Course Description: Exploration of concepts in statistics, descriptive statistics, probability theory, Central Limit Theorem, estimation of population parameters from a sample, hypothesis testing, correlation and linear regression, introduction to analysis of variance, and computer simulations.

Student Learning Outcomes: Here is the link for Math 15 course outline at SRJC.
   At the conclusion of this course, the student should be able to:
   1. Use numerical and graphical methods to summarize, display, and interpret data sets.
   2. Estimate population parameters from sample statistics.
   3. Perform one and two sample hypothesis tests for population means and proportions.

Grading for Math 15
Traditional grading scheme

Stats Project	10%	$A \geq 90$
Homework	15%	$80 \leq B < 90$
Exams (4 @ 15% each)	60%	$70 \leq C < 80$
Comprehensive Final Exam	15%	$60 \leq D < 70$
	100%	$F < 60$

Canvas
   Throughout the course, I will be posting notes, handouts, chapter review keys, and exam keys on Canvas. You may also keep up with your current grade by using Canvas.

Required Course Materials

   Calculator: A graphing calculator is required for this course. I recommend using a TI–83, 83+, 84, or 84+.
   I will be demonstrating on a TI-84+.
   Graphing Calculators are available to check out at the Mahoney Library for FREE all semester with a student ID.

   Textbook: *Elementary Statistics, 3th edition*, by William Navidi and Barry Monk
   Purchasing options:

   - Option #1: Purchase/Rent the hardback textbook (ISBN13: 9781259969454)

   - Option #2: Purchase/Rent the loose-leaf textbook (ISBN13: 9781260373523)

   - Option #3: Purchase/Rent the E-textbook

Exams

Four midterm exams and a comprehensive final exam will be given IN PERSON during the semester.
<u>Make-ups are not given</u>, and all exams must be taken on the scheduled dates.
If you miss an exam, contact me within 24 hours. If it is an excused absence, your final exam score will replace that missed midterm score.

Stats Project

During the second half of the semester, you will complete a statistics project.

This project is meant to give you hands-on experience collecting, analyzing, and presenting data.

Homework

We will be completing homework in this class the old-fashioned way.
Problem sets and due dates will be assigned weekly and it is your responsibility to record that information and submit your homework on time.

Attendance

Daily attendance is essential. You may be dropped from the course if you have more than 4 absences.
Arriving late or leaving class early may count as an absence.

Class Behavior Rules

❖ Students are to act respectfully and pay attention while in class.

❖ Please arrive on time and stay for the entire class period.

❖ Cell phones are to be turned off or set to silent mode.

❖ Students are expected to read the textbook.

❖ Students are expected to ask questions.

❖ Students are expected to be active participants in their education and do their best every day.

Important Academic Calendar Dates

- Wednesday, January 18th   Classes begin
- Sunday, January 29th   Last day to drop a class and receive a refund
- Sunday, February 5th   Last day to drop a class without a "W" symbol
- **Sunday, April 23rd**   **Last day to drop a class with a "W" symbol**
- **WEDNESDAY, MAY 24th**   **FINAL EXAM (1PM-3:45PM)**

Cheating/Plagiarism

Please read SRJC's policy/procedure on academic integrity at
http://www.boarddocs.com/ca/santarosa/Board.nsf/goto?open&id=A63TMC78051C

All quizzes & exams (including the final) must be done by the student alone. Any student who violates this rule will receive a zero. A student who commits a second offense may receive a failing grade in the class.

Accommodations for Disabilities

Please provide the Authorization for Academic Accommodations (AAA letter) from the Disability Resources Department (DRD) to me as soon as possible. You may also speak with me privately during office hours about your accommodations.

Emergency Evacuation

In the event of an emergency during class that requires evacuation of the building, please leave the class immediately and calmly. If you are a student who may need assistance in an evacuation, please see me as soon as possible to discuss an evacuation plan.

Tutoring

<u>Free</u> tutoring is available to all registered SRJC students.

- **SRJC Tutorial Centers** can be accessed through the website: https://college-skills.santarosa.edu/srjc-tutorial-centers

- **Math Lab Tutorial Center**: https://mathematics.santarosa.edu/online-math-lab-tutoring

Calculator & Laptop Rentals

Students may place online requests for Reserve items, including textbooks, calculators and laptops. This curbside pick-up service will be available by appointment. Loan periods will be for the entire Spring 2023 semester. Reserve item check-outs to students will be on a first-come, first-served basis, until all physical copies are gone. Students will keep Reserve items for the entire semester.

Use this link to find more information about rentals: https://libguides.santarosa.edu/RemoteAccess

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
	2:00-4:00PM		2:00-4:00PM	
Week 1 Jan 16 - 19	**NO CLASS**	**NO CLASS**	*Syllabus/Intro* **1.1** Sampling (lecture in class)	
Week 2 Jan 23 - 26	**1.2** Types of Data		**1.3** Design of Experiments **1.4** Bias in Studies	
Week 3 Jan 30 - 2	**2.1** Graphical Summaries for Qualitative Data **2.2** Graphical Summaries for Quantitative Data		**2.2** Graphical Summaries for Quantitative Data	
Week 4 Feb 6 - 9	**2.3** More Graphs for Quantitative Data **2.4** Graphs Can Be Misleading		**3.1** Measures of Center (mean, median, mode)	
Week 5 Feb 13 - 16	**EXAM 1**		**3.2** Measures of Spread (Empirical Rule, Chebyshev's Inequality)	**NO CLASS**
Week 6 Feb 20 - 23	**NO CLASS**		**3.3** Measure of Position	
Week 7 Feb 27 - 2	**4.1** Correlation **4.2** Least-Squares Regression Line		**4.2** Least-Squares Regression Line **5.1** Basic Concepts of Probability	
Week 8 Mar 6 - 9	**5.2** Additional Rule and Rule of Complements **5.3** Conditional Probability and the Multiplication Rule		**5.3** Conditional Probability and the Multiplication Rule	
Week 9 Mar 13 - 16	**6.1** Random Variables		**EXAM 2**	
Mar 20 - 23	SPRING BREAK			
Week 10 Mar 27 - 30	**6.2** Binomial Distribution		**7.1** Standard Normal Curve	

Week				
Week 11 Apr 3 - Apr 6	**7.2** Applications of Normal Distribution **7.3** Sampling Distribution and Central Limit Theorem		**7.3** Central Limit Theorem applications **7.4** The Central Limit Theorem for Proportions	
Week 12 Apr 10 - 13	**8.1** Confidence Intervals Pop. Mean w/ Pop. SD known		**EXAM 3**	
Week 13 Apr 17 - 20	**8.1** Confidence Intervals Pop. Mean w/ Pop. SD known **8.2** Confidence Intervals Pop. Mean w/ Pop. SD unknown		**8.3** Confidence Intervals Pop. Proportion **9.1** Basic Principles of Hypothesis Testing	
Week 14 Apr 24 - 27	**9.2** Hypothesis Testing Mean (application problems) **9.3** Hypothesis Testing Mean w/ Pop. SD unknown		**9.4** Hypothesis Tests for Proportions	
Week 15 May 1 - 4	**11.1** Hypothesis Tests for the Difference Between 2 Means - Independent Samples		**EXAM 4**	
Week 16 May 8 - 11	**11.2** Hypothesis Tests for the Difference Between Proportions **11.3** Hypothesis Tests for the Difference Between 2 Means - Dependent Samples		**12.1** Testing Goodness of Fit **12.2** Testing for Independence	
Week 17 May 15 - 18	**14.1** One-Way Analysis of Variance		*Catch-up Day*	
Finals Week May 22 - 25	**FINAL EXAM: Wednesday, May 24 (1:00-3:45PM)**			

Note: Schedule is subject to change throughout the semester