Course Syllabus – Spring 2024

Math 15 Elem Statistics — Section#5114 T&TH 12:00-2:00PM in Lindley 285
Math 215 Elem Statistics Co-req Support — Section#6181 T&TH 2:00-3:00PM in Lindley 285

Instructor Information

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

Office Hours: All office hours are in person.

Monday & Wednesday: 2-3PM (Kunde 219)

Tuesday & Thursday: 11-12PM (Kunde 219) and 8-8:30PM (Lindley 251)

You may schedule an appointment if you have a schedule conflict with the times listed above

Email Expectations: The best way to contact Prof. Schultz is by email cschultz@santarosa.edu or by sending a message through Canvas. During the week, you can expect an email response within 24 hours. You may get a response sooner, but there is no guarantee. If you email Prof. Schultz during the weekend, you can expect a response on Monday.

Grading for Math 15

Traditional grading scheme

Stats R Projects	15%	$A \geq 90$
Homework	10%	$80 \leq B < 90$
Exams (3 @ 20% each)	60%	$70 \leq C < 80$
Comprehensive Final Exam	15%	$60 \leq D < 70$
	100%	$F < 60$

Grading for Math 215

Pass/No Pass

In Class Assignments	50%	
Group Quizzes	40%	PASS ≥ 70
Group Final Exam	10%	NO PASS < 70
	100%	

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, 4th* **edition**, by William Navidi and Barry Monk

Purchasing options:

- Option #1: Purchase/Rent the hardback textbook (ISBN13: 9781260727876)
- Option #2: Purchase/Rent the loose-leaf textbook (ISBN13: 9781264136407)
- Option #3: Purchase/Rent the E-textbook from the publisher website
- https://www.mheducation.com/highered/product/elementary-statistics-navidi-monk/M9781260727876.html

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.

Prerequisites/Corequisites: Completion of MATH 161 OR MATH 156 OR MATH 154 OR MATH 155 or AB705 placement into Math Tier 1 or higher

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.

Math 215 Course Description: A review of the core prerequisite skills, competencies, and concepts needed in statistics. Intended for students who are concurrently enrolled in (MATH 15) Elementary Statistics. Topics include concepts from arithmetic, pre-algebra, elementary and intermediate algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Additional emphasis is placed on solving and graphing linear equations and modeling with linear functions.

Prerequisites/Corequisites: Concurrent Enrollment in MATH 15

Student Learning Outcomes: Here is the link for the Math 215 course outline at SRJC.
At the conclusion of this course, the student should be able to:

1. Apply arithmetic, pre-algebra, and algebra skills necessary for success in Elementary Statistics.
2. Apply knowledge of algebra and descriptive statistics to inferential statistics.

Exams

Three midterm exams and a comprehensive final exam will be given IN PERSON during the semester. Make-ups are not given, and all exams must be taken on the scheduled dates.

If you miss an exam, you must contact Prof. Schults within 24 hours. If it is an excused absence, your final exam score will replace that missed midterm score. If you do not have a valid reason for your absence or you do not contact Prof. Schultz within 24 hours, you will receive a zero as an exam score.

Stats Project

You will complete multiple statistics projects throughout the semester.

These projects will be completed using R, which is a statistical software used by statisticians, scientists, economists, and more. This project is meant to give you hands-on experience with collecting, analyzing, and presenting data as well as a little bit of coding.

Homework

You 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.

Math 215 In Class Assignments

In class assignments will be handed out regularly throughout the semester. These assignments cannot be made up if you are absent. If you are absent the day an in-class assignment is given out, you will receive a zero for that assignment.

Math 215 Group Quizzes & Group Final Exam

Group quizzes will be given throughout the semester. You may submit group quizzes in person or on Canvas. For group quizzes, one submission for each group will be graded and everyone in that group will receive the same score – make sure to go over your solutions with your group members before turning in your quizzes! Group quizzes will be due on select **Thursdays** by 11:59PM.

There are no makeups for group quizzes or the group final exam.

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.

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

- Tuesday, January 16th — Spring semester begins
- Sunday, January 28th — Last day to drop a class and receive a refund
- Sunday, February 4th — Last day to drop a class without a "W" symbol
- **Sunday, April 21st — Last day to drop a class with a "W" symbol**
- **FINAL EXAM: Thursday, May 23rd (10:00 AM - 12:45 PM)**

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 and may be reported to academic affairs for their offense. 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

Free 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

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY
		5:30-8:00PM		5:30-8:00PM
Week 1 Jan 15 - 18	**NO CLASS**	*Syllabus/Intro* **1.1** Sampling		**1.1** Sampling **1.2** Types of Data
Week 2 Jan 22 - 25		**1.3** Design of Experiments **1.4** Bias in Studies		**2.1** Graphical Summaries for Qualitative Data **2.2** Graphical Summaries for Quantitative Data
Week 3 Jan 29 - 1		**2.2** Graphical Summaries for Quantitative Data		**3.1** Measures of Center (mean, median, mode)
Week 4 Feb 5 - 8		**3.2** Measures of Spread (Empirical Rule, Chebyshev's Inequality)		**2.3** More Graphs for Quantitative Data **2.4** Graphs Can Be Misleading
Week 5 Feb 12 - 15		**EXAM 1**		**NO CLASS**
Week 6 Feb 19 - 22	**NO CLASS**	**3.3** Measure of Position		**4.1** Correlation **4.2** Least-Squares Regression Line
Week 7 Feb 26 - 1		**4.2** Least-Squares Regression Line **5.1** Basic Concepts of Probability		**5.2** Additional Rule and Rule of Complements **5.3** Conditional Probability and the Multiplication Rule
Week 8 Mar 4 - 7		**5.3** Conditional Probability and the Multiplication Rule		**6.1** Random Variables
Week 9 Mar 11 - 14		**6.2** Binomial Distribution		**7.1** Standard Normal Curve
Mar 18 - 21	**SPRING BREAK**			
Week 10 Mar 25 - 28		**7.2** Applications of Normal Distribution **7.3** Sampling Distribution and Central Limit Theorem		**EXAM 2**
Week 11 Apr 1 - Apr 4	**NO CLASS**	**7.3** Central Limit Theorem applications **7.4** The Central Limit Theorem for Proportions		**8.1** Confidence Intervals Pop. Mean w/ Pop. SD known
Week 12 Apr 8 - 11		**8.2** Confidence Intervals Pop. Mean w/ Pop. SD unknown		**8.3** Confidence Intervals Pop. Proportion **9.1** Basic Principles of Hypothesis Testing
Week 13 Apr 15 - 18		**9.1** Basic Principles of Hypothesis Testing **9.2** Hypothesis Testing Mean (application problems)		**9.3** Hypothesis Testing Mean w/ Pop. SD unknown

Week 14 Apr 22 - 25		**9.4** Hypothesis Tests for Proportions		**EXAM 3**
Week 15 Apr 29 - 2		**11.1** Hypothesis Tests for the Difference Between 2 Means - Independent Samples **11.2** Hypothesis Tests for the Difference Between Proportions		**11.3** Hypothesis Tests for the Difference Between 2 Means - Dependent Samples
Week 16 May 6 - 9		**12.1** Testing Goodness of Fit		**12.2** Testing for Independence
Week 17 May 13 - 16		**14.1** One-Way Analysis of Variance		*Final Exam Review*
Finals Week May 20 - 23	**Final Exam: Thursday, May 23 (10:00-12:45PM)**			

Note: Schedule is subject to change throughout the semester