

**Course Description:** This course covers descriptive statistics, probability theory, and inferential statistics. Topics covered include: tabular and graphical representation of data, counting principles, permutations, combinations, rules of probability, continuous and discrete probability distributions, sampling distributions, the central limit theorem, estimating population parameters, hypothesis testing, correlation, regression, contingency tables, and chi-square. Applications are selected from the fields of business, economics, life science, social science, and physical science. Math 253, math 255, or the equivalent is a prerequisite for this course.

**Student Learning Outcomes:** Students who successfully complete Math 10 will be able to demonstrate:

1. mastery of the computational skills necessary to solve problems whose difficulty level is appropriate for a transfer-level class.
2. the ability to use statistical methods to test hypotheses involving real-world scenarios.
3. an understanding of and ability to use the standard normal curve in analyzing appropriate data sets.

**Class Attendance:** This class meets from **5:30 - 6:45 p.m. Tuesdays and Thursdays in room SM-129**. Daily class attendance is expected in this course and is important for your success. Excessive absences (six or more instructional hours) may result in your being dropped from the class. If you wish to withdraw from the class, it is your responsibility to do so before the deadlines. This semester, the last day to drop the class with a refund is **January 22**. The last day to drop the class without a 'W' (or to petition for the *credit/no credit* grading option) is **February 14**, and the last day to withdraw with a 'W' is **April 5**. All students are required to register for the computer lab located in room SM-348 during the first two weeks of the course.

**Classroom Etiquette:** Students are expected to be on time and remain until class is dismissed. If you are tardy or must leave early, please enter or depart quietly. No food or drinks (other than water) are allowed in the classroom. Make certain that all cell phones are turned off before entering the classroom. Listening to mp3 players and texting during class are not allowed. By district policy, smoking is not allowed inside any building or within 25 feet of any building.

**Academic Honor Code:** Saddleback College students are responsible for regulating their own conduct in accordance with the *Code of Conduct* approved by the Board of Trustees. The *Code of Conduct* is outlined in the *Student Handbook* ([www.saddleback.edu/media/pdf/handbook.pdf](http://www.saddleback.edu/media/pdf/handbook.pdf); pages 39-42) and the *College Catalog* ([www.saddleback.edu/cc/documents/general-information.pdf](http://www.saddleback.edu/cc/documents/general-information.pdf); pages 22-27). It is each student's responsibility to adhere to an academic honor code, which upholds the integrity of the institution and the educational process so all students have an equal opportunity to demonstrate their academic abilities. Academic dishonesty will not be tolerated. Penalties for academic dishonesty range from a score of zero on the assignment in question up to expulsion.

**Special Needs:** If you have a disability which requires accommodations, you need to contact the Special Services Office (Student Services Center: room 113 or Village: room 28-1; 949-582-4885) immediately, and bring me notification of the necessary accommodations as soon as it is available. I can not make accommodations without advance notification. All information will remain confidential.

**Contact:** My voicemail is (949) 582-4900, mailbox number 3419, and my e-mail address is [pquigley@saddleback.edu](mailto:pquigley@saddleback.edu). The class website is [www.saddleback.edu/faculty/pquigley](http://www.saddleback.edu/faculty/pquigley). You should familiarize yourself with 'MySite' at [mysite.saddleback.edu](http://mysite.saddleback.edu) so that you will be able to receive important e-mails and gain access to your final grades. As a part-time instructor, I do not have an office or office hours. For additional help when I am not available the Learning Assistance Program (LAP) in Village 8 offers free tutoring.

**Textbook:** Your textbook is one of your most important resources. The text for this semester is *Elementary Statistics* 8th edition by Bluman, McGraw-Hill, 2012. I expect you to read the appropriate sections before they are discussed in class.

**Calculators:** You will need a basic scientific calculator for this course. Calculators may be used on some exams and in fact will be necessary for certain problems. **Graphing calculators, PDA's, cellular phones and similar devices will not be allowed on exams.**

**Homework:** Homework is an essential part of the learning process. You are responsible for understanding all assigned homework problems. Assignments will be collected with the exam covering that material. **Late homework will not be accepted.** To be complete, homework must be neatly written and clearly labeled. Homework is considered as part of your semester grade only in borderline cases.

**Exams:** There will be six one-hour midterm exams each of which is worth 100 points. Your five highest midterm scores will contribute to your semester grade. The final exam is worth 200 points and will be held on **Tuesday, May 15 from 5:15 - 7:15 p.m.** All students are required to take the exams at the scheduled times. **There will be no alternative exam times except when accommodating disabilities or cancelled classes.** On the exams you must show all work, as demonstrated in class, in order to receive full credit.

**Semester Grade:** Your grade in this course is based upon the sum of your final exam score and your five highest midterm scores. That means that your semester grade is calculated out of a total of seven hundred points. Your semester grade can be determined using the grading scale below. In borderline cases, the completion of homework assignments may be considered in your favor. **No extra credit is available for this course.**

F: 0-419 points

D: 420-489 points

C: 490-559 points

B: 560-629 points

A: 630-700 points

## Tentative Syllabus

<u>Date</u>	<u>Topics</u>	<u>Description</u>	<u>Homework Problems</u>
Jan. 10	§2.1	Organizing Data	§2.1: 9, 11, 13
Jan. 12	§2.2	Histograms, Frequency Polygons, and Ogives	§2.2: 1, 7, 13, 17
	§3.1	Measures of Central Tendency	§3.1: 1-7 odd (a-c only)
Jan. 17	§3.2	Measures of Variation	§3.2: 7-13 odd, 35-38 all
Jan. 19	§4.1	Sample Spaces and Probability	§4.1: 13-31 odd
	§4.2	The Addition Rules for Probability	§4.2: 3-25 odd
Jan. 24	§4.2	<i>continued</i>	
	§4.3	The Multiplication Rules and Conditional Probability	§4.3: 1-51 odd
Jan. 26	<b>Exam 1</b>	<i>Chapter 2; Chapter 3</i>	
Jan. 31	§4.4	Counting Rules	§4.4: 1-41 odd
Feb. 2	§4.5	Probability and Counting Rules	§4.5: 1-15 odd
Feb. 7	§5.1	Probability Distributions	§5.1: 7-23 odd
	§5.2	Mean, Variance, Standard Deviation and Expectation	§5.2: 1-17 odd
Feb. 9	§5.2	<i>continued</i>	
	§5.3	The Binomial Distribution	§5.3: 5-21 odd
Feb. 14	<b>Exam 2</b>	<i>Chapter 4</i>	
Feb. 16	§6.1	Normal Distributions	§6.1: 7-45 odd
	§6.2	Applications of the Normal Distribution	§6.2: 1-29 odd
Feb. 21	§6.2	<i>continued</i>	
	§6.3	The Central Limit Theorem	§6.3: 9-25 odd
Feb. 23	-	<b>Class Cancelled</b>	
Feb. 28	§6.4	The Normal Approximation to the Binomial Distribution	§6.4: 5-13 odd
	§7.1	Confidence Intervals for the Mean When Sigma Is Known	§7.1: 11-25 odd
Mar. 1	§7.1	<i>continued</i>	
	§7.2	Confidence Intervals for the Mean When Sigma Is Unknown	§7.2: 5-19 odd
Mar. 6	<b>Exam 3</b>	<i>Chapter 5; Chapter 6, sections 1-2</i>	
Mar. 8	§7.3	Confidence Intervals and Sample Size for Proportions	§7.3: 3-19 odd
	§8.1	Steps in Hypothesis Testing	§8.1: 13
Mar. 20	§8.1	<i>continued</i>	
Mar. 22	§8.2	$z$ Test for a Mean	§8.2: 1-25 odd
Mar. 27	§8.3	$t$ Test for a Mean	§8.3: 5-19 odd
	§8.4	$z$ Test for a Proportion	§8.4: 5-19 odd
Mar. 29	<b>Exam 4</b>	<i>Chapter 6, section 3-4; Chapter 7</i>	
Apr. 3	§9.1	Testing the Difference Between Two Means: Using the $z$ -Test	§9.1: 7-19 odd
Apr. 5	§9.2	Testing Two Means of Independent Samples: Using the $t$ -Test	§9.2: 1-15 odd
	§9.3	Testing the Difference Between Two Means: Dependent Samples	§9.3: 3-9 odd
Apr. 10	§9.4	Testing the Difference Between Proportions	§9.4: 3-19 odd
Apr. 12	§9.5	Testing the Difference Between Two Variances	§9.5: 7-19 odd
	§10.1	Scatter Plots and Correlation	§10.1: 13-27 odd
Apr. 17	<b>Exam 5</b>	<i>Chapter 8; Chapter 9, section 1</i>	
Apr. 19	§10.2	Regression	§10.2: 13-25 odd
Apr. 24	§10.3	Coefficients and Standard Error of the Estimate	§10.3: 11-19 odd
Apr. 26	§11.1	Test for Goodness of Fit	§11.1: 5-17 odd
May 1	<b>Exam 6</b>	<i>Chapter 9, sections 2-5</i>	
May 3	§11.2	Tests Using Contingency Tables	§11.2: 9-31 odd
May 8	-	<b>To Be Announced</b>	
May 15	<b>Final Exam</b>	<i>Chapters 2-11 (5:15 - 7:15 p.m.)</i>	