**Syllabus for Math 219- Spring 2014**

Professor George Sweeney

Section 80804-Room H-108

Monday and Wednesday: 1:00-3:30pm

**Instructor**: George Sweeney

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**Office Hours**: 12:00pm-1:00pm- Monday and Wednesday in the Math Center

**Course Description:** This is an introductory course in statistical reasoning. I use the term statistical reasoning because the focus of the course is how do we make decisions based upon data. Statistical reasoning is a process of making decisions and as such is much more than simply mathematics. The mathematics is important certainly, but the process that is used to make these decisions requires logic and a set of practices that extend beyond the use of numbers. In this class you will learn to make decisions based upon comparing probabilities, developing descriptive statistics, examining data, making inferences, and comparing data from different groups using statistical methods. The goal of this class is to make you better purveyors of information and expand your reasoning skills to include data-driven activities.

The Student Learning Outcomes for the course are as follows:

1.  Represent data in an organized and visual manner.

2.  Write an appropriate conclusion based on the data.

3.  Identify and evaluate the sampling methods used to obtain data.

4.  Identify the appropriate statistical method to use to analyze data.

5.  Demonstrate knowledge of the condition(s) necessary for a statistical procedure to be used.

6.  Identify unethical approaches to statistical reasoning.

7.  Interpret graphs and charts found in the media.

8.  Use software to create graphs based upon given data.

9.  State how statistics and/or probability could be used in one's chosen profession.

**Textbook**: Elementary Statistics Custom Book Only, *Triola C1*ISBN 1-2563-3081-7

**Materials Needed**: A graphing calculator, TI-83 plus or TI-84, will be very helpful (really you should pick one up), although a scientific calculator is mandatory. In addition, several assignments will require Mini-Tab or Stat Crunch. Stat Crunch is available online and costs 16.20 for 6 months worth of access. It might be helpful for your work in class to bring in a laptop or tablet to do some of the data crunching for the course.

**Math Center Hours**: The Math Center is open from 12:00-4:00 pm, Monday through Thursday. There are Statistics tables in the Math Center and all of the computers in the center are outfitted with Mini-Tab.

**Web Site**: www.sac.edu/georgesweeney. On my website you will find the syllabus and my contact information. For all assignments, test reviews and other helpful information, we will be using Blackboard.

**Make-ups:** There are no make-ups for class work, quizzes, or exams. For exams, if an unforeseen problem occurs, students need to talk with the instructor before the exam to see if a possible solution can be found.

**Honesty Policy:** Students are expected to display the utmost integrity. During all exams and quizzes, calculators cannot be shared, students are not to communicate with others, and your eyes should remain on your paper. No other electronic devices may be used during exams or quizzes. If a question arises during the assessment see the instructor. You may not leave during the exam. There is absolutely NO tolerance for cheating in this class. Any student caught cheating or assisting another student in the act of cheating will receive a zero on the assignment, quiz or test. (On exam days, the instructor reserves the right to move students to different seats, do not take this personally!)

**Attendance and Participation:** The expectation is that you actively participate in thinking about the material inside and outside of class. Any student with more than six hours of missed class will be dropped from the class, as noted in the school attendance policy. I will enforce this.

**Special Needs**: Any student with a disability, who would like to request an academic accommodation, is responsible for identifying herself/himself to the instructor and to the Disabled Student Programs and Services (DSPS). To make arrangements for academic accommodations, contact the Physical Disability Center in Johnson Center, U-103, or phone (714) 564-6264, TTY (714) 564-6284 for a referral to the appropriate DSPS Department. It is the student’s responsibility to inform the instructor in a timely manner.

**Further Note:** In consideration of others please turn all cell phones and pagers off or to silent mode.

**Grading Rubric**:

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| --- | --- |
| Assignment | Percentage of Total Grade |
| Homework | 10% |
| Quizzes | 10% |
| Exams | 50% |
| Final Exam | 30% |

**Table of Dates and Topics**:

The following table contains the dates for the course and all topics that will be covered on these days. I reserve the right to change the order or time allotted for these topics based upon the needs of the class.

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| Week | Date | Topics |
| 1 | February 10 | Syllabus/ Vocabulary and Sampling Techniques |
| 1 | February 12 | Sampling Techniques |
| 2 | February 17 | President's Day |
| 2 | February 19 | Quantitative Variables and Representations  Quiz 1 |
| 3 | February 24 | Quantitative Variables and Representations |
| 3 | February 26 | Quantitative Variables and Representations/ Quiz 2 |
| 4 | March 3 | Probability and Categorical Variables/Review |
| 4 | March 5 | Probability and Categorical Variables  Exam 1 |
| 5 | March 10 | Probability and Categorical Variables |
| 5 | March 12 | Discrete Distributions/ Quiz 3 |
| 6 | March 17 | The Binomial Distribution |
| 6 | March 19 | Continuous Distributions/The Normal distribution  Quiz 4 |
| 7 | March 24 | The Normal Distribution /Review |
| 7 | March 26 | Exam 2/ Sampling Distributions |
| 8 | March 31 | Cesar Chavez Day |
| 8 | April 2 | Sampling Distributions |
| Spring Break | April 7 | Spring Break |
| Spring Break | April 9 | Spring Break |
| 9 | April 14 | Confidence Intervals |
| 9 | April 16 | Confidence Intervals Quiz 5 |
| 10 | April 21 | Review |
| 10 | April 23 | Exam 3/Hypothesis Tests-Theory |
| 11 | April 28 | One-Sample Proportions Hypothesis Tests/One Sample Means Hypothesis Tests |
| 11 | April 30 | One Sample Means-Hypothesis Tests  Two-Sample Proportions Hypothesis Tests  Quiz 6 |
| 12 | May 5 | Two Sample Means Hypothesis Tests |
| 12 | May 7 | Two-Sample Means Hypothesis Tests  Quiz 7 |
| 13 | May 12 | Correlation |
| 13 | May 14 | Correlation/ Quiz 8 |
| 14 | May 19 | Review/ Contingency Tables |
| 14 | May 21 | Exam 4/ANOVA |
| 15 | May 26 | Memorial Day |
| 15 | May 28 | ANOVA/ Quiz 9 |
| 16 | June 2 | Final Review (Counts as Quiz 10) |
| 16 | June 4 | Final Exam |

Exam Dates and Topics:

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| Exam Date | Topics |
| March 5, 2014 | Vocabulary, Sampling Techniques, Quantitative Variables and Representations |
| March 26, 2014 | Probability and Counting, Discrete Distributions, Binomial Distributions |
| April 23, 2014 | Continuous Distributions, Normal Distributions, Sampling Distributions, Confidence Intervals |
| May 14, 2014 | One Sample and Two-Sample Hypothesis Tests, Correlation |
| June 4- Final Exam | Cumulative including Contingency Tables and ANOVA |