

# BUS 204: Business Statistics

Fall 2016 Section 2598; Tuesdays 7:30am – 8:45am

MiraCosta College, Oceanside Campus

Welcome to Business Statistic 204. This class will teach you how to leverage statistics to make informed business management decisions. This course will provide a foundation of business statistics and build your experience using statistical analysis tools. Understanding the core concepts found in statistics will provide you with an incredibly powerful business tool that will support you throughout your entire career.

## Course Description

At the core, this course will teach you how to develop insights and make decisions from data sets. It will provide a foundation for an understanding of statistics and help you gain confidence leveraging statistics to create strong business cases and make intelligent business decisions.

This course examines the use of descriptive statistics, probability, confidence intervals, hypothesis testing, analysis of variance, regression and correlation analysis, t-tests, and applications of technology for statistical analysis, including the interpretation of the relevance of statistical findings for business problem solving and decision making.

## Course Details

**Semester:** Fall 2016 **Units:** 3 hours

**Prerequisites:** MATH 64 or equivalent; or eligibility determined by the math placement process

**Acceptable for Credit:** CSU, UC—credit limitation

**Section 2598 Meeting Time:** Mondays and Wednesdays 7:30AM – 8:45AM

**Location:** Oceanside Campus, Room 4802

### Websites

- MiraCosta Business Programs: <http://www.miracosta.edu/business>
- MiraCosta College Home Page: <http://www.miracosta.edu/>
- MiraCosta College Blackboard course management: <http://blackboard.miracosta.edu/>
- Text Student Companion Web Site: link at: [www.pearsonhighered.com/sharpe](http://www.pearsonhighered.com/sharpe)
- MyStatLab (MSL): [www.pearsonmylab.com](http://www.pearsonmylab.com) and may be accessed through the menu of the Blackboard site for this class (click on MSL button on left of screen).

## Student Learning Outcomes (SLOs) & Course Objectives

### Student Learning Outcomes (SLOs)

1. After successful completion of the course students will be able to summarize and analyze statistical data to solve practical business related problems.
2. After successful completion of the course students will be able to interpret the relevance of statistical findings for business problem solving and decision making.
3. After successful completion of the course students will be able to apply technology to statistical analysis and problem solving.

### Course Objectives

1. Distinguish among different scales of measurement and their implications for solving problems
2. Create tables and graphs to format, organize, and interpret data; summarize and present data
3. Calculate and analyze numerical descriptive measures for a given data set
4. Apply concepts of sample space and probability to solving problems
5. Calculate measures of central tendency and variation; use statistical software to analyze results
6. Calculate the probability that an event will occur
7. Identify methods of obtaining data and identify the advantages and disadvantages of each as applied to solving problems
8. Calculate the mean and variance of a discrete distribution
9. Calculate probabilities using normal and t-distributions
10. Distinguish between sample and population distributions, analyze the role played by the central limit theorem, and apply the central limit theorem to calculate standard error and determine the sampling distributions
11. Construct and interpret confidence intervals

12. Identify the basic concepts of hypothesis testing; distinguish between Type I and Type II errors; conduct hypothesis testing for population mean
13. Apply linear regression analysis for estimation and inference; interpret resulting data
14. Determine and interpret statistical significance, including p-values
15. Model and solve statistics problems using Microsoft Excel and its Data Analysis Toolpak
16. Use statistical techniques to analyze and interpret data from business, social science, and science

## Instructor Information

**Name:** Alan Cole **Background:** MBA, University of Texas; BS Civil Engineering, Santa Clara University; 20 years of business operating experience in high-growth technology companies.

**Office hours:** By appointment – coordinate via email.

**Email:** [acole@miracosta.edu](mailto:acole@miracosta.edu)

**MCC home page:** <http://www.miracosta.edu/home/acole/>

**Preferred communication:** Email. Please include BUS204-2598 in the subject line of your emails and include your first and last name in all communications.

**Response time:** I will attempt to respond to emails within 24 hours.

### Teaching philosophy

My goal is to ensure that students are prepared to put their education to work in their chosen career path. I focus on the application of our coursework within a business setting and teach concepts in the context of today's business environment. I'm truly excited about the subject-matter and I'm committed to the success of our students.

Classes are engaging and interactive. They will be filled with a myriad of delivery formats that speak to different learning styles. As in the business world, articulate and on-point communication is critical to success and will be emphasized in every class. The classroom setting will embrace an open and respectful dialog. All students are expected to be prepared for class and ready to participate.

Personal growth is catalyzed when we reach outside of our comfort zone and embrace new concepts. Our class will work together to ensure we're all learning at our potential.

I view it as an honor to teach our students and look forward to seeing you in class!

## Course Materials

### Required:

Business Statistics: A First Course, 3<sup>rd</sup> Edition, Sharpe De Veaux, Velleman. The BUS 204 text book is a package that includes the 3-hole punch version of text, the MyStatLab code (including eBook access) and a CD. Availability: MiraCosta College bookstore and other retailers. You must obtain the book by the second week of class: Chapters 1 & 2 have been scanned and will be available under course content on Blackboard as well as on my website (<http://www.miracosta.edu/home/acole/>). There is a copy of the text on reserve at the Oceanside Library.

You may purchase a new or used version of the text; however, you will find that the new version contains an Access Code that will admit you to the online text. Required Computer Access: You must be able to check your e-mail and the Blackboard site regularly. You may use a PC or Mac, but you must have access to the Internet and Microsoft Word, Excel (Data Analysis Toolpak or with XLSTAT) and PowerPoint, or equivalent software (available at most libraries) as you will be required to use these for assignments. You must also have printer access to be able to download and print handouts from the Blackboard site. Free and low-cost computer resources are available on campus.

While this is not an online class, all assignments, quizzes and exams will be conducted online through MyStatLab. In order to complete this class you will need to ensure you have consistent and reliable internet access.

## Course Content

- **Classes:** The weekly schedule (below) outlines the full course content and due dates for all assignments. Reading assignments and exercises are due on the date listed by each item.
- **Exercises and case** assignments are administered through MyStatLab (MSL) and are due before the scheduled start of class for the assigned date.
- **Quizzes:** Equally weighted quizzes consist of objective questions and brief problem solving.
- **Exam:** One Exam will be administered on the date indicated in the weekly schedule and will consist of objective questions and problem solving.

## Course Grading

The final grade will be derived from test scores (exams and quizzes), class participation and homework assignments.

1. No makeup exams, quizzes or hand in assignments are allowed.
2. Students are expected to actively participate. Regular preparation of assignments will be necessary for active participation. Students independently or in groups will be occasionally invited to help answer questions and solve problems.
3. Students are expected to complete assigned exercises, cases as scheduled. These assignments will typically be completed online via MyStatLab.
4. Pass/fail: See below in College Policies & Services

### Points

|                |            |      |
|----------------|------------|------|
| Homework:      | 280 points | 35%  |
| Quizzes:       | 280 points | 35%  |
| Exam:          | 200 points | 25%  |
| Participation: | 40 points  | 5%   |
| Total          | 800 points | 100% |

### Grading Scale

|              |                      |   |
|--------------|----------------------|---|
| 90 and above | 720 points and above | A |
| 80-89        | 640-719 points       | B |
| 70-79        | 560-639 points       | C |
| 60-69        | 480-559 points       | D |
| 59 and below | 479 points and below | F |

## Course Rules & Expectations

**Class Rules:** Please be on time for class and respect your fellow students. Be prepared for class by completing assignments when they are due and be ready to engage in discussions and group projects. Turn off cell phones and avoid other distractions while in the classroom. Let's create a great learning environment together.

**Attendance:** Regular attendance for the full class period is important. Attendance will be taken as class begins. If you arrive after attendance is taken it will be counted as an absence. Violations subject you to being dropped at instructor's sole discretion.

Please inform the instructor if you will unavoidably miss two consecutive class sessions. Also, be sure not to miss any classes during the first two weeks, and not miss more than four (or "two" if there is only one class session per week) total classes for the semester. Do not interrupt class if you must enter the classroom late.

**Class Withdrawal Rules:** Students are responsible to complete all necessary paperwork if they decide to withdraw from class. The Instructor must take strong steps to ensure all students are attending and active. Therefore, the Instructor retains complete discretion to process a Withdrawal (Drop) for students without additional notice for any of the following (unless discussed with Instructor and approved in advance):

- Failure to input all required information on the Blackboard class web site by the end of the FIRST week of the semester.
- Failure to complete any assignment during the first two weeks of the semester
- Missing ANY class during the first two weeks
- Missing 2 consecutive classes or 4 total classes during the semester
- Failure to complete 2 consecutive or 4 total Assignments of any type
- Failure to complete ANY exam

**Due Dates:** Only work submitted on time and per instructions will be accepted in this course, although on rare occasion work may be accepted in advance when expressly arranged in advance with instructor.

## College Policies & Services

### Important Dates and Drop Information:

- September 2, 2016 (Friday – week 2): Last day to ADD classes, and last day to DROP classes with no “W” and receive a refund.
- September 23, 2016: Last day to file Petition for Degree/Certificate and to file for Pass / No Pass. Consider this option only if you do not need a letter grade.
- November 18, 2016: Last day to Drop class with “W” grade. Drops after that receive a letter grade (generally an “F”). If you discover this course is not for you, make sure to drop by

### Academic Honesty:

All tests and assignments are to be the work of the student. Any exams or assigned work that is turned in by the student for a grade, but, is not the original work of that student will be deemed unacceptable and the student will receive zero points for that work.

Failure to comply with any of the above may result in failure of an assignment, removal from the course, failure in the course, and discipline action deemed appropriate by the instructor in his sole discretion and/or policies and procedures set forth by the Board of Trustees of the MiraCosta Community College District, fully described in the College Catalog.

### Incomplete Grade:

Students seeking an “Incomplete” grade must consult with me in person no later than the week prior to finals. Incompletes will only be considered for emergency or other unforeseeable justifiable reasons at the end of the term, and only upon agreement of clear conditions for completing coursework. Incompletes are rarely granted and only if the emergency or other unforeseeable justifiable reason occurs after the date for dropping the class. Work, vacation, class schedules, time management problems, and other normal issues all students deal with do not qualify.

### Pass/No Pass Grading Option (for graded classes):

You have the option to choose Pass/No Pass grading for this class. If you choose this option, you must submit a Petition for Pass/No Pass to Admissions & Records before 30% of the class has elapsed. This option for grading is nonreversible once selected. The petition form is available online, or from Admissions & Records. Students planning to transfer should consult with a counselor before opting for Pass/No Pass to ensure this option is accepted by their intended transfer institutions. Check the MiraCosta College catalog or schedule for more detailed information.

### Disability Accommodations:

Students with disabilities, whether physical, learning, or psychological, who believe that they may need accommodations in this class, are encouraged to contact Disabled Students Programs & Services (<http://www.miracosta.edu/student-services/dsps/index.html>) as soon as possible to ensure that such accommodations are implemented in a timely manner. Their phone number is (760) 795-6658 and they are located on the Oceanside campus in Building 3000-Student Services, Room 3009, adjacent to Parking lot 3C.

### Library Resources:

The MiraCosta College faculty librarians assist students with their research questions, whether academic or personal. Students may obtain assistance from librarians either one-on-one at the reference desk, through class orientations, group workshops, individual appointments, or online. I strongly encourage you to take advantage of library resources. More information regarding the library may be found at their webpage: <http://www.miracosta.edu/library>.

### College Support Services:

The Tutoring and Academic Support Center (TASC) (<http://www.miracosta.edu/student-services/tutoring/index.html>) and the Writing Center (WC) (<http://www.miracosta.edu/student-services/writingcenter/index.html>) assist students by providing individual and group tutoring, WC drop-ins, learning communities, self-help materials, and student success workshops. Services are free and available to all students during day and evening hours at all MiraCosta College campuses. Take advantage of these academic support services. For more specific information, please call (760) 795-6682 for TASC and (760) 795-6339 for WC.

# Weekly Schedule

The following schedule is a rough outline for the semester. All problems for each chapter will be assigned and completed within MyStatLab. Please check Blackboard for updates throughout the semester.

| Day                                  | Date   | Lecture        | Quizzes Due Before Class | Reading Due Before Class | HW Due Before Class |
|--------------------------------------|--------|----------------|--------------------------|--------------------------|---------------------|
| <b>Exploring and Collecting Data</b> |        |                |                          |                          |                     |
| Mon                                  | 22-Aug | Intro          |                          |                          |                     |
| Wed                                  | 24-Aug | Chapter 1      |                          | Read - Ch 1              | HW - Ch 1 (online)  |
| Mon                                  | 29-Aug | Chapter 2      |                          | Read - Ch 2              | HW - Ch 2 (online)  |
| Wed                                  | 31-Aug | Chapter 3      |                          | Read - Ch 3              | HW - Ch 3 (online)  |
| Mon                                  | 5-Sep  | HOLIDAY        |                          |                          |                     |
| Wed                                  | 7-Sep  | Chapter 4      |                          | Read - Ch 4              |                     |
| Mon                                  | 12-Sep | Chapter 4      |                          |                          | HW - Ch 4 (online)  |
| Wed                                  | 14-Sep | Review Ch 1-4  |                          |                          |                     |
| <b>Modeling with Probability</b>     |        |                |                          |                          |                     |
| Mon                                  | 19-Sep | Chapter 5      | Quiz Ch 1-4 (online)     | Read - Ch 5              |                     |
| Wed                                  | 21-Sep | Chapter 5      |                          |                          | HW - Ch 5 (online)  |
| Mon                                  | 26-Sep | Chapter 6      |                          | Read - Ch 6              |                     |
| Wed                                  | 28-Sep | Chapter 6      |                          |                          | HW - Ch 6 (online)  |
| Mon                                  | 3-Oct  | Review Ch 5-6  |                          |                          |                     |
| Wed                                  | 5-Oct  | Chapter 7      | Quiz Ch 5-6 (online)     | Read - Ch 7              |                     |
| Mon                                  | 10-Oct | Chapter 7      |                          |                          | HW - Ch 7 (online)  |
| Wed                                  | 12-Oct | Chapter 8      |                          | Read - Ch 8              |                     |
| Mon                                  | 17-Oct | Chapter 8      |                          |                          | HW - Ch 8 (online)  |
| Wed                                  | 19-Oct | Chapter 9      |                          | Read - Ch 9              |                     |
| Mon                                  | 24-Oct | Chapter 9      |                          |                          | HW - Ch 9 (online)  |
| Wed                                  | 26-Oct | Review Ch 7-9  |                          |                          |                     |
| <b>Inference for Decision Making</b> |        |                |                          |                          |                     |
| Mon                                  | 31-Oct | Chapter 10     | Quiz Ch 7-9 (online)     | Read - Ch 10             |                     |
| Wed                                  | 2-Nov  | Chapter 10     |                          |                          | HW - Ch 10 (online) |
| Mon                                  | 7-Nov  | Chapter 11     |                          | Read - Ch 11             |                     |
| Wed                                  | 9-Nov  | Chapter 11     |                          |                          | HW - Ch 11 (online) |
| Mon                                  | 14-Nov | Chapter 12     |                          | Read - Ch 12             |                     |
| Wed                                  | 16-Nov | Chapter 12     |                          |                          | HW - Ch 12 (online) |
| Mon                                  | 21-Nov | Chapter 13     |                          | Read - Ch 13             |                     |
| Wed                                  | 23-Nov | Chapter 13     |                          |                          | HW - Ch 13 (online) |
| Mon                                  | 28-Nov | Review Ch10-13 |                          |                          |                     |
| <b>Models for Decision Making</b>    |        |                |                          |                          |                     |
| Wed                                  | 30-Nov | Chapter 14     | Quiz Ch 10-13 (online)   | Read - Ch 14             |                     |
| Mon                                  | 5-Dec  | Chapter 14     |                          |                          | HW - Ch 14 (online) |
| Wed                                  | 7-Dec  | Chapter 15     |                          | Read - Ch 15             |                     |
| Mon                                  | 12-Dec | Final Review   | Final Ch 1-14 (online)   |                          |                     |