## **BUS 204: Business Statistics**

Summer 2016 Section 1143 Tu/Th MiraCosta College, Oceanside Main Campus

Welcome to Business Statistic 204. This is a fabulous subject. I am hopeful that once you complete the course you will agree. Whether you are a business major, in business, or a consumer understanding statistics and statistical thinking are very important. How we gather, analyze and use the vast amounts of data available are vital business management tools, which is why it is a required course in business degree programs. In this course we will focus on concepts, applications and leveraging newer tools like Excel which facilitate and simplify the sometimes complex computing that was previously done with calculators. I will be supplementing the textbook with in-class discussions using practical applications highlighting inherent strengths and cautions of using some of the various statistical tools.

I am glad that you signed up for the class. This should be a very enjoyable and valuable learning experience.

### **Course Description**

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. We will also focus on other skills that are important in the workplace to help you develop knowledge, skills and habits that will add value to future employers and to your own career.

### **Course Details**

Semester: Summer 2016, June 14– August 4, 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: 1143 Meeting Times: Tuesdays/Thursdays 6:00 pm-8:50 pm

### Websites

- MiraCosta Business Programs: <u>http://www.miracosta.edu/business</u>
- MiraCosta College Home Page: <u>http://www.miracosta.edu/</u>
- MiraCosta College Blackboard course management: <u>http://blackboard.miracosta.edu/</u>
- Text Student Companion Web Site: link at: www.pearsonhighered.com/sharpe
- The MyStatLab (MSL): <u>www.pearsonmylab.com</u> 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
- 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: Don Kalescky: Background: CMB, Master level; MBA: National Univ; BSBA (Finance): SDSU; AA (Bus Mgt): Mesa College. More of my background can be found at my MCC home page: <u>http://www.miracosta.edu/home/dkalescky/</u> Office hours: Tuesdays/Thursdays 5:15 pm-5:45 pm (unless other obligations interfere). Office: OCT432. Phone: 760-757-2121 x1249 Email: <u>dkalescky@miracosta.edu</u>

MCC home page: http://www.miracosta.edu/home/dkalescky/

**Preferred communication:** Email/call to arrange a meeting if necessary. Please include your full name and class in all communications. **Response time:** I will attempt to respond to calls or emails promptly, within 24-48 hours.

### **Teaching philosophy**

The love of learning is a foundation for a lifelong pursuit of knowledge.

**Make the course meaningful, impactful and enjoyable for the students:** Provide meaningful learning opportunities for students to help them prepare for successful careers. Tie together specific and related subject matter learning with skills and knowledge that are needed for success in the workplace to strengthen the value they will add to future employers and to their own career opportunities.

**Be thoughtful and prepared about what and how to present course curriculum:** Skills including research, critical thinking, punctuality, writing, listening, questioning, self evaluation and working with others are important.

**Engage the students:** The best learning environment is based on engaged students participating through a combination of lecture with discussion, real life examples, and student contributions. Students learn through involvement, not just passive listening. Real life examples anchor learning and increase the value of the course work and eventual application. Respectfully encourage and support diversity of backgrounds and ideas. Seek periodic feedback as to the progress of learning and achievement of learning objectives. Testing is for more than just assessment and is also an opportunity to extend the learning process.

**Enhance learning through servant leadership:** Students, faculty and staff are to be treated with fairness, honesty, gentleness and compassion.

## **Course Materials**

#### Required:

Business Statistics: A First Course, 2<sup>nd</sup> Edition, Sharpe De Veaux, Velleman (ISBN-**132315714X**). 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/dkalescky/). 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.

Other requirements: Internet accessibility and a valid email address.

**Optional items;** Lined paper to class to take notes and aid in group exercises.

### **Course Content**

• **Class meetings** will generally begin with attendance followed by a brief review of previous material and questions. This will be followed with presentation of new material in lecture, practice problem solving and class discussion format. Students should be prepared by completing prior to class assigned reading, studying,

exercises, cases and reviewing homework solutions available in the text. There will be some group work. Your success in this course will depend on your consistent reading, discussion, and application of assignments and lectures.

- **Exercises** assignments are administered through MyStatLab (MSL) and are due before the scheduled start of class for the assigned date. "Brief Cases" will be turned in at the beginning of class on the due date.
- Exams: Four equally weighted exams will be administered on the dates indicated in the weekly schedule and will consist of objective questions and problem solving. Exams may be administered on line. <u>Portions of the exams may be administered in class.</u>
- **Project:** You will also be required to complete research project. Staged progressive assignments will required.
- Extra credit assignments may be offered periodically. Students must complete extra credit assignments to
  receive credit.

### **Course Grading**

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

- 1. No makeup exams or hand in assignments are allowed.
- 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 reading, exercises, cases and the project as scheduled. Most of these assignments will be periodically turned in or completed online via MyStatLab. Some will be required to be turned in hard copy.
- 4. Extra credit: You may earn extra credit points (opportunities may be offered periodically)
- 5. Pass/fail: See below in College Policies & Services

Po	ints	Grading Scale					
	Exams:	300 points	50%	90 and above	540 points and above	А	
	HW-Exercises	125 points	~21%	80-89	480-539 points	В	
	HW-Brief Cases	15 points	~ 2%	70-79	420-479 points	С	
	Project	100 points	~17%	60-69	360-419 points	D	
	Participation	60 points	10%	59 and below	359 points and below	F	
	Total	600 points	100%				

## **Course Rules & Expectations**

**Class Rules:** Please: Be prepared (do assignments prior to classes). Attend regularly. Be on time for class. Pay attention in class. Participate and have interest in the subject. Do not engage in any form of academic dishonesty. Respect fellow students and instructor. Do not bring *uncovered* beverages into the classroom. Turn off all beepers and cell phones. Dress and act appropriately for a good learning environment.

**Communications:** Assignments required to be submitted in class cannot be submitted electronically. Do not attach anything to your emails. All assignments are to have your first and last name clearly identified.

**Attendance:** Regular attendance for the <u>full class period</u> is important. Please inform the instructor if you will unavoidably miss <u>two</u> consecutive class sessions. Also, be sure not to miss any classes during the first two weeks, and not miss more than <u>two</u> total classes for the semester. Be punctual. Do not interrupt class if you must enter the classroom late. Class attendance may be taken at the beginning of class or any other time or multiple times during class. If you arrive after attendance or are not present when taken it may be counted as an absence. Violations subject you to being dropped at instructor's sole discretion.

**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 insure 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 more than two 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: (Verify at http://www.miracosta.edu/calendars.html )

- June 13, 2016 (Monday): First day of summer classes.
- Our first class is Tuesday June 14.
- June 17, 2016 (Friday): Last day to add spring full summer classes with instructor permission.
- June 17, 2016 (Friday): Last day to drop spring full semester classes with no grade placed on permanent record.
- July 4, 2016 (Monday): College closed Independence Day (Legal Holiday).
- July 22, 2016 (Friday): Last day to DROP spring full summer classes with option of "W" grade (this date may change based on changes to the college calendar.
- August 4, 2016 (Thursday): Last day of summer class.
- Students are responsible for completing all necessary paperwork if they decide to withdraw from the class.

#### 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% (9/25/15) 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 (<u>http://www.miracosta.edu/studentservices/dsps/index.html</u>) 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: <a href="http://www.miracosta.edu/library">http://www.miracosta.edu/library</a>. College Support Services:

The Tutoring and Academic Support Center (TASC)

<u>http://www.miracosta.edu/studentservices/tutoring/index.html</u> and the Writing Center (WC) (<u>http://www.miracosta.edu/studentservices/writingcenter/index.html</u>) 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

Electronic version of Daily Schedule will be posted on Blackboard under Course Content. The following will generally outline the course progress.

					TO BE COMPLETED BEFORE CLASS SESSION	
Class #	Week	Dates	Chap(s)	Topics	Reading	Assignment & Cases
1	1	6/14	1	Syllabus, Introductions Statistics and Variation	- Chaps 1-2 pp. 1-20	
2	1	6/16	2/3	Data	Review Chaps 1-2 pp. 1-20	Chap 2
				Surveys and Sampling	Chap 3 pp. 25-43.	Brief Case p.20
3	2	6/21	3	Surveys and Sampling	Review Chap 3 pp. 25-43	Chap 3-1
				 		Brief Case p. 44
			4	Displaying and Describing Categorical Data	Chap 4 pp. 51-71	Chap 3-2
				Displaying and		Chap 4-1
4	2	6/23	4	Describing Categorical Data	Review Chap 4 pp. 51-71	Brief Case p. 72
				Review		Project-Assignment #1
5	3	6/28	5	Displaying and Describing Quantitative Data	Study for Exam Chap 5 pp. 83-97	Exam 1
			5	Displaying and Describing Quantitative Data	Chap 5 pp. 97-115	Chap 4-2
6	3	6/30	5	Displaying and Describing Quantitative Data	Review Chap 5 pp. 83-115	Chap 5-1
			6	Correlation and Linear Regression	Chap 6 pp. 133-149	Project-Assignment #2
7	4	7/5	6	Correlation and Linear Regression	Chap 6 pp. 149-163	Chap 6-1
			7	Randomness and Probability	Chap 7 pp. 183-194.	Chap 6-2
8	4	7/7	7	Randomness and Probability Review	Chap 7 pp. 194-204. Review pp. 183-194	Chap 7-1
9	5	7/12	8	Random Variables and Probability Models	Chap 8: pp 215-232	Exam 2

<u> </u>							
				Q	Random Variables	Chan 8 nn 222-219	Chan 7.2
		ð		Models	Chap 8 pp. 232-249	Chap 7-2	
	10	5	7/14	9	Sampling Distributions and	Chap 9 pp. 259-274	Chap 8-1
					Confidence Intervals for Proportions		
				٥	Distributions and	Chan 9 nn 271-286	Chap 8-2
				9	Confidence Intervals for Proportions	Chap 5 pp. 274-280	Project-Assignment #3
	11	6	7/10	10	Testing Hypotheses	Chap 10 pp. 299-313.	
	11	0	//19	.9 10 about Proportions, Quiz Chap 8-9		Study for Quiz; Chaps 8-9	Chap 9-1
				10	Testing Hypotheses about Proportions	Chap 10 pp. 313-324	Chap 9-2
	12	12 6	7/21	11	Confidence Intervals	Chap 11 pp. 335-346	Chap 10-1
	12		//21	11	Tests for Means		
					Confidence Intervals	Chap 11 pp. 346-357	Chap 10-2
				11	Tests for Means		Ducie et Accieve ent #4
					Review		Project-Assignment #4
					Comparing Two	Chap 12 pp. 369-381.	Exam 3
	13	7	7/26	12	Groups & Quiz Chans 10-11	Study for Quiz; Chaps 10-	Chan 11-1
				40	Comparing Two		
				12	Groups	Chap 12 pp. 381-397	Chap 11-2
	14	7	7/28	14	Inference for Regression	Chap 14 pp. 463-475	Chap 12-1
				14	Inference for Regression	Chap 14 pp. 475-492	Chap 12-2
							Chap 14-1
	15	8	8/2		Review	Review Chap	Chap 14-2
							Project-Final Report Due
	16	8	7/28		Course Recap		Exam 4

<u>Important Notice</u>: This syllabus is subject to change at any time at the discretion of the Instructor; notice will be given to the students by email or with an announcement on the class Blackboard site. It is the student's responsibility to maintain a current email address in the Blackboard system and to check their email and the Blackboard site regularly, at least several times each week.

It is the student's responsibility to review completed and graded assignments are properly posted to their Blackboard account AND to raise any discrepancies to the Instructor's attention immediately.