

#### **EWMBA 296: Data and Decisions**

Haas School of Business, UC Berkeley Fall 2016

#### Instructor

Reed Walker
Office:
Email:

Office Hours: Monday and Wednesday 4-5pm, and by appointment

### **Graduate Student Instructor**

Laura Boudreau

Email:

Office Hours: Tuesdays, 6:30PM-8:30PM in Adobe Connect (subject to change

depending on class preferences)

### Class Schedule

#### Oski

Lectures: Saturday, 9am-1pm, in C220

Section: Thursday, 7:30-8:30pm, via Adobe Connect

No Class, 11/26 (Thanksgiving Holiday)

#### Axe

Lectures: Saturday, 2pm-6pm, in C210

Section: Thursday, 6:30-7:30pm, via Adobe Connect

No Class, 11/26 (Thanksgiving Holiday)

#### **Final Exam**

Exam will be held in Andersen Auditorium on Saturday, December 10, time 2-4pm (details below).

#### Additional notes

Final exam review sessions will be scheduled for the week of 12/10. Locations and times TBA.

## **Course Objective**

The objective of the course is to provide an understanding of the role of data and statistical analysis in managerial decision-making. We focus on the role of managers as both consumers and producers of information, illustrating how finding and/or developing the right data and applying appropriate statistical methods can help solve problems in business.

### **Course Website**

We will use bCourses for circulating optional homework questions, datasets for the team assignments, and exams and quizzes from previous years. These materials are intellectual property of the Haas School of Business so please do not repost.

## Required Textbook

The required text is *Statistics for Business: Decision Making and Analysis, 2nd Edition,* by Robert Stine and Dean Foster, Pearson, December 2012. This is available at the Cal Store.

ISBN-10: 0321836510 ISBN-13: 978-0321836519

The Cal Store also has bundles which include your Data and Decisions and Finance books, either hardcopy or e-book. Or you can rent a digital version of the textbook from: http://www.coursesmart.com/.

#### Software

The course will use Microsoft Excel for several in-class and out-of-class group exercises. It is very important that you have Excel, and that you have installed the Analysis Toolpak. To activate the Toolpak, from Excel Options go to "Add-Ins" to activate.

For those students using a Mac, we strongly recommend installing MS Office 2016 (available free here: <a href="https://software.berkeley.edu/MS-DL-instructions">https://software.berkeley.edu/MS-DL-instructions</a>) or (ii) use Parallels Desktop to access the MS Windows version of the Data Analysis Toolpak.

# Prerequisites

Students are expected to understand the material in chapters 1 12 in the Stine and Foster textbook prior to the first day of class. The material in these sections includes describing categorical and numerical data, probability, random variables,

associations between random variables and the normal probability model. These topics are covered in the Required Skills Workshop prior to the beginning of the course.

#### Homework

The best way to learn the course material is to solve problems. For each chapter we have chosen a selection of problems that illustrate the main concepts. These will not be graded and are drawn from the odd-numbered questions, for which the book has answers at the back of the book. These problems are a good opportunity to practice the concepts and techniques from each chapter and will be helpful in preparing for the quizzes and the final exam.

## Quizzes

Each week there will be a short quiz covering the material from the previous two lectures. The quizzes are designed to ensure that you are learning the material and help us identify any topics requiring further explanation. Quiz questions in some cases will be similar to the practice exercises in the textbook and in other cases will be considerably different. Quizzes are individual assignments, closed book and no laptops, tablets, or cell phones may be used. You may bring a single  $8.5 \times 11$  sheet of paper (single-sided) with notes and any kind of calculator. Quizzes will usually be returned the following Saturday. There will be no make-up quizzes for any reason; however, you will have the opportunity to drop your lowest score. There will be seven total quizzes, of which only your best six scores will go toward your final grade.

#### Midterm Exam

There is no midterm in Data and Decisions.

#### Final Exam

The final exam will be held on Saturday, December 10th, time 2-4pm, in Andersen Auditorium. The final exam is an *individual* assignment, closed book, and no laptops, tablets, or cell phones are allowed. You may bring a single 8.5×11 sheet of paper (double-sided) with notes and any kind of calculator.

### **Class Attendance**

Class attendance is **required**. Please let us know *before* class begins if some emergency has made it impossible for you to attend class.

### **Classroom Norms**

Our expectation is that you are in your seats ready to begin the discussion when class starts. Because of the way our classrooms are designed, it is disruptive when students arrive late so please be courteous to your fellow classmates and arrive on time. In addition, please do not leave class during the lecture and/or discussion. We will provide a mid-class break that will allow you to get a drink, use the restroom, or check on an important email.

We also expect that students will not have laptops, cell phones, or tablets out during class.

## **Class Participation**

We will come to class each day with a teaching plan, which necessitates, and is greatly enriched by, effective participation. The plan will attempt to achieve a logical progression through the key ideas in the readings. Thus, during discussions, quality is what matters, not quantity. Be concise, thoughtful, and ready to engage other participants. Originality and persuasiveness matter. Effective class participation moves the discussion forward by building on previous comments.

## **Discussion Sections**

Axe: Thursdays, 6:30-7:30PM Pacific Time Oski: Thursdays, 7:30-8:30PM Pacific Time

Discussion sections will be run by the GSI via Adobe Connect. The main purpose of these sections is to review the homework problems, quizzes, and team assignments from the week. Discussion sections will be held every Thursday, except November 24; in addition, there will be an extra review session for the final exam that will be announced by the GSI. If there are particular questions in the book that you want the GSI to cover, please let them know by Tuesday afternoon.

## **Team Assignments**

There will be three team assignments:

- Assignment 1: Chapter 15, problem 52 (p. 382) and problem 54 (p. 383)
- Assignment 2: Chapter 19, problem 38 "Convenience Shopping" (p. 507)
- Assignment 3: Chapter 23, problem 48 "Apple" (pp.630 631)

Class participants will work in their newly assigned teams. All team members are expected to contribute fully to the team effort. Division of labor is discouraged

because it detracts from the learning process. Any habitual "absentees" should be reported to us.

Only one write-up should be submitted per team. Write-ups are due at 11:59PM on the dates indicated on the schedule. Late write-ups will not be accepted. To submit your write-up, please upload it in bCourses, under the "Assignments" tab. At the top of the front page of your write-up and in the "Comments" section when submitting in bCourses, please list your cohort and the names of all team members.

Assignments 2 and 3 require you to perform data analysis in Excel using datasets that will be made available on bCourses. Please provide complete answers including a brief explanation of how you reached your results. Do not include raw Excel output in your write-ups. Instead, where appropriate, use tables and figures to explain your answers. Tables and figures should have descriptive titles and be easy to understand, with appropriate labels.

Team assignments should not exceed two pages including text, tables and figures. This is a *maximum* length; you will likely be able to complete these assignments in less than two pages. Explain your answers concisely using simple, non-technical language. Grading will be based on the overall clarity, accessibility, and coherence of your analyses.

### Grades

Student performance will be graded as follows:

<u>Activity</u>	Percent of Final Grade
Quizzes	30
Class Attendance and Participation	5
In-Class Excel Exercises	5
Take-Home Assignments	10
Final Exam	50

## **Grade Dispute Policy**

In the event that a team or individual requests that an assignment, quiz, or exam be re-graded, within 72 hours of it being returned, students can submit a petition in writing. For quizzes, this means by Tuesday 6pm. The petition should clearly document the specific issue you have with the grading, be well reasoned, and be word-processed. Please turn in the written petition and the assignment/quiz/exam at the same time. Please do not write on the assignment/quiz/exam, but rather on a separate piece of paper. We reserve the right to re-grade the whole assignment/quiz/exam.

## **Class Representatives**

We will select two class representatives per section during the first two weeks of the semester. These representatives serve as an important source of communication between the class and the MBA program office. If you are interested, please let us know.

## **Good and Bad Data Analysis**

Data analysis is everywhere, and much can be learned from good and bad use of data in the popular press. If you come across something interesting, please share it with us.

### **Honor Code**

As members of the UC-Berkeley community, our expectation is that you will adhere rigorously to the UC-Berkeley Honor Code. Anyone caught cheating on a quiz or exam in this course will receive a failing grade in the course and will also be reported to the University Center for Student Conduct. In order to guarantee that you are not suspected of cheating, please keep your eyes on your own materials and do not converse with others during the quizzes and exams. For further information see: www.asuc.org/honorcode/.

# **EWMBA 296: Lecture and Quiz Schedule**

Class no.	Date	Topic	Reading Assignment (Stine and Foster)
1-2	Sat 10/15	Course Introduction Quiz 1 (covers chapters 1-12)	Review Chapters 1-12
		Samples and Surveys	Chapter 13
3-4	Sat 10/22	Sampling Variation and Quality Quiz 2 (Intro. and Ch. 13)	Chapter 14, Sec. 1 and 2
		Confidence Intervals	Chapter 15
5-6	Sat 10/29	Statistical Tests Quiz 3 (Ch. 14, Sec. 1 and 2; Ch. 15) Team Assignment 1, Due 11/2	Chapter 16
		Comparison Hawthorne Experiments Case	Chapter 17, Sec 1, 2, and 4
7-8	Sat 11/5	In-Class Exercise Quiz 4 (Ch. 16; Ch. 17, Sec. 1,2, and 4)	None
		Linear and Curved Patterns	Chapter 19, Chapter 20, Sec. 1 and 4
9-10	Sat 11/12	Simple Regression Model Quiz 5 (Ch. 19; Ch. 20, Sec. 1 and 4) Team Assignment 2, Due 11/16	Chapter 21
		Multiple Regression	Chapter 23, Sec. 1 and 2
11-12	Sat 11/19	Multiple Regression Wine Case Quiz 6 (Ch. 21; Ch. 23, Sec.1 and 2)	Chapter 23, Sec. 3, 4, and 5
		Building Regression Models	Chapter 24
No Class	Sat 11/26		
13-14	Sat 12/3	Categorical Variables Quiz 7 (Chapters 23 and 24) Team Assignment 3, Due 12/7	Chapter 25
		Wrap Up and Review	None

Saturday, 12/10, Time 2-4pm, Final Exam in Andersen Auditorium