PROF. BOB EMRICH

Applied Data Analysis

Spring 2015

Malibu Campus

SYLLABUS
Introduction
The significant advances in computing and communication technologies over the past two decades have resulted in a business environment today that increasingly requires managers who can use the principles of statistical analysis to make effective decisions. Managers with these capabilities will be able to 1) consider richer sets of alternatives, 2) more deeply understand and question assumptions, and 3) consider more diverse measures of performance. This course will improve a student’s capabilities in each of these areas.

Course Goals
Summary: This course is designed to introduce students to the practice of introductory statistical analysis. Coverage will include examining data distributions, examining relationships between variables, probability theory including standard probability distributions such as normal and binomial; sampling distributions, the basic statistical inference methods, and applied linear regression techniques/forecasting. This course will emphasize statistical thinking. While the foundations of statistical analysis are rooted in math theory, the practice of statistics today involves learning a process of scientific inquiry. Statistics is the science of data. In this course, students will work hands-on with real data and develop questions they seek to answer with appropriate data analysis.

Course Textbook (e-chapter options, see below)

Business Analytics: Data Analysis and Decision Making

- **AUTHORS:** Albright/Winston - ©2015
- **ISBN10:** 1-133-62960-1
- **ISBN13:** 978-1-133-62960-3

*Not all of this text will be used for DESC593 and none is required. Students may rent e-chapters for the material as needed. Chapters will be discussed in class, so do not purchase the entire text.*
Video Instruction
My YouTube channel contains instructional videos that supplement the material we cover in class. You may use the videos as you would a textbook. A seven-video series, the topics align with the course schedule. Titles 1-7: Examining Distributions, Examining Relationships, Normal Probability, Introduction to Inference, Inference for Means, Inference for Proportions, Inference for Regression.
www.youtube.com/user/drbob2102

Online Instruction
Weekly online sessions will be offered to all students. The link within our Sakai course will direct you to an Adobe Connect virtual classroom. Log in as “Guest” and enter your first name. Headphones are helpful to hear me. A microphone will allow you speak in the room. Most students who attend will use the chat app to type questions. If you can’t attend the online session, meetings will be recorded and links to the recordings will be made available to all students.

Course Computing: Business Statistics
Excel Tools for Statistical Analysis, a set of excel workbooks designed to assist students with statistical analysis, are provided by the instructor to students via Sakai download.

NOTE: Excel 2010 (Windows) or 2011 (Mac), at least, should be used.

Grading
10% Class Participation

- Attendance: Much of our learning occurs in class. Attendance is expected at all class meetings.

- Practice Quizzes: Practice quizzes are taken using Sakai. Quiz completion is graded credit/no credit (see below). Quizzes may be submitted unlimited times, all session long. Feedback is provided for both correct and incorrect responses. Please check that you have successfully submitted quiz responses by looking for your score in the Sakai grade book.
  - 100 points- full completion all quizzes
  - 80 points- one missing quiz
  - 50 points- two missing quizzes
  - 0 points- more than two missing quizzes

- Innovations through Applied Data Analysis: Using the Data Discussion link in our Sakai course, post a well-written description a company’s current use of data
and data analysis. The company may be large or small and from anywhere in the world, any industry. Also, reply to the posts of at least 2 classmates. **Original posts are due week 4. Replies are due week 6. (100 points)**

**30% Midterm Exam**
- The purpose of the midterm is to assess progress and readiness for the remaining course material. The midterm will consist of problems that require the use of data and course Excel tools. The midterm also has a short section of multiple-choice items. **The midterm is week 3. (% Score)**

**30% Cases (team assignment)**
- There is one team case assignment, which is divided into 3 parts. Parts of a comprehensive applied statistical analysis will be submitted in week 3, week 5 and at the course conclusion. Students may work in teams of 4-5. (**200 points total**).

**30% Final Exam**
- The final exam will be in two parts: 1. Using personal laptops, students will conduct analysis of data provided by the instructor. Solutions will be recorded on a hard copy exam. 2. Multiple-choice and short answer items will examine key terms, concepts, and theory. (**% Score**)

**Grading Scale**
- 94-100=A; 90-93 = A-
- 80-82=B-; 83-86=B; 87-89=B+
- 70-72=C-; 73-76=C; 77-79=C+
- 60-62=D-; 63-66=D; 67-69=D+

**Class Meeting Schedule**

**Meeting 1:** Introduction to Applied Data Analysis; Examining Data Distributions & Relationships

**Meeting 2:** Introduction to Statistical Inference. Midterm Preparation.

**Meetings 3:** Midterm Exam; Introduction to Inference for Means and Proportions (part 1 of team case due)

**Meeting 4:** Inference for Means and Proportions

**Meeting 5:** Inference for Regression (part 2 of team case due)

**Meeting 6:** Inference for Regression; Final Exam Preparation; Topic Integration

**Meeting 7:** Final Exam (part 3 and final team case report due)
Policies

Student Channels of Communication

a. Questions about the center (room, copying facilities, etc.) should be directed to the front desk at your center, and if still a problem, to the Center Director.

b. Questions about your program, future offerings, and so forth should be directed to your Program Director at your center.

c. Concerns about the class and feedback should first be directed to the professor. Students have a right to request of a professor clarification of grading. If classroom or grading concerns are still not resolved, please contact the Academic Chair of Decision Sciences with your concerns in writing. The process then moves up to the Associate Dean of Academic Affairs and finally the Dean of GSBM. Any attempt to bypass this chain of command will result in delays, as the message will be sent back down to the appropriate level.

Conduct

The University expects from all of its students and employees the highest standard of moral and ethical behavior in harmony with its Christian philosophy and purposes. Engaging in or promoting conduct or lifestyles inconsistent with traditional Christian values is not acceptable.

The following regulations apply to any person, graduate or undergraduate, who is enrolled as a Pepperdine University student. These rules are not to be interpreted as all-inclusive as to situations in which discipline will be invoked. They are illustrative, and the University reserves the right to take disciplinary action in appropriate circumstances not set out in this catalog. It is understood that each student who enrolls at Pepperdine University will assume the responsibilities involved by adhering to the regulations of the University. Students are expected to respect order, morality, personal honor, and the rights and property of others at all times. Examples of improper conduct for which students are subject to discipline are as follows:

- Dishonesty in any form, including plagiarism, illegal copying of software, and knowingly furnishing false information to the University.
- Forgery, alteration, or misuse of University documents, records, or identification.
- Failure to comply with written or verbal directives of duly authorized University officials who are acting in the performance of assigned duties.
- Interference with the academic or administrative process of the University or any of the approved activities.
- Otherwise unprotected behavior that disrupts the classroom environment.
- Theft or damage to property.
- Violation of civil or criminal codes of local, state, or federal governments.
- Unauthorized use of or entry into University facilities.
- Violation of any stated policies or regulations governing student relationships to
Disciplinary action may involve, but is not limited to, one or a combination of the alternatives listed below:

**Dismissal** – separation of the student from the University on a permanent basis.

**Suspension** – separation of the student from the University for a specified length of time.

**Probation** – status of the student indicating that the relationship with the University is tenuous and that the student’s records will be reviewed periodically to determine suitability to remain enrolled. Specific limitations to and restrictions of the student’s privileges may accompany probation.”

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**Assistance for Students with Disabilities**

The Disability Services Office (DSO) offers a variety of services and accommodations to students with disabilities based on appropriate documentation, nature of disability, and academic need. In order to initiate services, students should meet with the Director of the DSO at the beginning of the semester to discuss reasonable accommodation. If a student does not request accommodation or provide documentation, the faculty member is under no obligation to provide accommodations. You may contact the Director of Disability Services at (310) 506-6500. For further information, visit the DSO Web site at: [http://www.pepperdine.edu/disabilityservices/](http://www.pepperdine.edu/disabilityservices/).