MIM 535 Spring ’17
Global Marketing Research and Innovation

Time and Place:

<table>
<thead>
<tr>
<th>Time</th>
<th>Place</th>
<th>Sec</th>
<th>CRN</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00 - 15:15 TR</td>
<td>4th Ave Bld 170</td>
<td>003</td>
<td>65192</td>
</tr>
</tbody>
</table>

Professor: David W. Gerbing, Ph.D.
Office: BA 442
Phone: 725-4767 (not recommended except during office hours)
Office Hours: R 1:00 pm - 2:00 pm, Sunday 6:30pm online, and by appointment
Class Website: D2L with content posted at http://web.pdx.edu/~gerbing/535/
Class Email and Google Hangouts Video Chat: gerbing@pdx.edu
→ Email: Place 535 somewhere in the subject line to be placed in the priority class folder.
Avoid D2L email because it is not real email. Response to D2L email from the PSU email system is not possible, so you will not see a response.

Learning Objectives: The emphasis throughout this course is data competency, the ability to extract information from data and apply statistical thinking to managerial problem solving. Manual computation and formula memorization are de-emphasized.

• Summarize a distribution of values in terms of center and variability, identify the location of a value within a distribution, and graphically display the results
• Conduct and interpret statistical inference for managerial decision making by constructing and interpreting confidence intervals and hypothesis tests for (a) means, (b) mean differences, (c) correlations, and (d) regression coefficients
• Construct and interpret models of a response variable according to specified predictor variables that help explain the relationship among the variables and to forecast future values of the response variable
• Do all data analyses introduced in the course using the application preferred by many data scientists, R, and read and interpret the resulting output, which includes understanding how data are formatted and organized for data analysis


Computer Software: I have developed a set of computer routines based on the data analysis application R, called lessR, that are designed to efficiently and easily, with the emphasis on easily, provide precisely the analyses reviewed in this course. In practice, virtually all students use my lessR functions in the R environment to accomplish their analyses. The combination of my lessR functions within the R environment is referred to as R/lessR, but, again, use whatever software you wish.

To learn more about the growing impact of R, read the NY Times article from 2009. Since the publication of that article R has become even more prominent, becoming the world standard for data analysis. Also see the videos posted at the course web site in the section named Data Analysis
on the Computer with R that illustrate downloading, installing and running R. Here is an overview video.

When you have a question in this class contact me. Regarding computer use, one advantage of using R/lessR is that all input and much of the output are readily available as straight text, so when you encounter an error, just copy and paste the relevant text into an email (or discussion forum on D2L), and I can usually diagnose the situation very quickly and get you going. Never spend more than a small amount of time trying to figure out some computer issue without first contacting me to get an answer.

The recommended general strategy for statistical analysis involves both R/lessR for the primary statistical analyses and a worksheet application such as Excel. Use the worksheet for data entry and manipulation and perhaps some simple analyses, and then use vastly superior, and generally easier to use, R/lessR statistical capabilities for the bulk of the analyses.

**Homework:** The Midterm, Final and Course Project are directly and literally built from the homework problems, so the ability to do the homework problems is the key indicator of doing well on the tests. Weekly homework is posted under the relevant week listed on the home page of the course website.

Homework is considered a learning experience, and so is not graded for correctness. Full solutions are provided after each week’s homework is turned in. It is your responsibility to assess the quality of your homework from the solutions. If you have questions remaining after studying the posted solutions, make sure that those questions get answered. Consistent with this approach, you are welcome to work on the homework as a group, but do turn in your own individual homework assignment.

**Tests:** The tests are to be done individually. The Midterm and Course Project are open book. Answer computer analysis and interpretation problems as a take-home with all class materials and the Internet available as resources, with the sole resource constraint that you work alone, not consulting other people with help answering the questions. The analysis problems on the take-home test are close versions of the homework questions with different data sets. The Final is in-class, and, again, directly builds from the homework, but focuses on conceptual questions in short answer format.

**Project:** Each student will complete a survey project that applies the data analysis skills reviewed in this course to actual survey data that he or she collects individually and/or via social media and the web. The content of the project is addressed to some aspect of cross-cultural perceptions regarding citizens of two or more cultures, such as Chinese and American. The specific topic can be political or economic, in terms of, for example, how members of different cultures perceive relevant issues such as privacy, family structure, government regulation, foundations of economic success, personal and societal aspirations, and cultural cooperation/competition.

**Course Grade:** Overall course percentage is computed as follows.

<table>
<thead>
<tr>
<th>HW</th>
<th>Project</th>
<th>Midterm</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>.10</td>
<td>.30</td>
<td>.30</td>
<td>.30</td>
</tr>
</tbody>
</table>

Your course percentage directly translates into a letter grade, depending on your selected track. This table lists the minimum cutoffs of your course % for each letter grade.
<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>92</td>
<td>90</td>
<td>88</td>
<td>82</td>
<td>80</td>
<td>78</td>
<td>72</td>
<td>68</td>
</tr>
</tbody>
</table>

The cutoffs may be lowered to your favor, but these are the minimum guarantees.
MIM 535 Topic Outline

These dates are assignment dates. The due date for each homework is before the beginning of each class.

**Week 1** [4/04] Basics: Data Tables and Computer Analysis

**Week 2** [4/11] Inference: CLT, $t$-distribution, Confidence Interval

**Week 3** [4/18] Inference: for the Mean

**Week 4** [4/25] Inference: Compare Groups, Experiments

**Week 5** [5/02] Correlation and One-Predictor Regression Analysis

**Week 6** [5/09] Multiple Regression

**Week 7** [5/16] Take-Home Midterm

**Week 8** [5/23] Writing Items for Surveys

**Week 9** [5/30] Using Qualtrics to Administer a Survey

**Week 10** [6/06] Work on Survey Project

**Finals Week** [6/??] In-class Final