Course Description:

Advanced statistical analysis with applications in business and economics using relevant computer software. Topics include business applications in descriptive and inferential statistics emphasizing selected topics such as simple and multiple regression, analysis of variance, time series analysis, and non-parametric techniques (tentative).

Prerequisite

MATH 104 (Elementary Statistics), which covered probability concepts, descriptive statistics, binomial and normal distributions, confidence intervals, and tests of hypotheses. Although knowledge on these topics is expected, we will briefly review the most important topics in class. IT IS THE STUDENT RESPONSIBILITY TO REVIEW THE NECESSARY CONCEPTS TO DO SATISFACTORY IN THIS COURSE (CHAPTERS 1 TO 5)

The student is expected to have some Excel knowledge. If you lack this knowledge, please review:

- How to install analysis tool-pack
  - https://www.youtube.com/watch?v=uBH07EWlGW0
- How to enter simple formulas
  - https://www.youtube.com/watch?v=DBceIAi0Axs
- Troubleshooting with formulas
  - https://www.youtube.com/watch?v=JST-JEZmf9I
- How to create charts
  - https://www.youtube.com/watch?v=c70cQXWkFI
- Pivot tables
  - https://www.youtube.com/watch?v=Ldm3LH4b0z0

School of Business Learning Goals:

Quantitative Fluency:

Students will gain experience and training on advanced functionality in Microsoft Excel to support information management and decision-making

Learning Objectives:

1. Interpret business data using descriptive statistics techniques, including the use of spreadsheet functions.
2. Apply simple concepts of probability distributions to business problems, solving for statistics (given probabilities) and probabilities (given statistics) for normal, t-Student, Chi-Squared and F distributions.
3. Use statistical tests to make inferences about a population based on a sample.
4. Apply hypothesis testing for one and two populations to test for means and proportions in business applications.
5. Apply ANOVA and goodness of fit for testing for differences among multiple populations in business applications.
6. Apply Chi-Squared tests and regression for testing relationships between variables for business decision-making.

Problem Solving Ability (every day for solving statistics problems in business applications).

Course Objectives:

1. Compute and interpret sample mean and standard deviation
2. Determine confidence intervals for the population mean and proportion
3. Test hypothesis about population mean and proportion
4. Test hypothesis comparing two population means
5. Test hypothesis comparing two population proportions
6. Cover simple and multiple regression and the application of the regression approach to time series forecasting and analysis of variance.
7. Discuss analysis of variance and its applications.
8. Chi square test
9. Develop skills in using Excel and other software for data analysis.

Course Expectations

As your teacher I have the following responsibilities:
1. Come prepared to every class.
2. Plan my class so you can accomplish the objectives listed in the syllabus.
3. Treat you as responsible adults.
4. Consider that it is not always your fault if you don’t understand the material.
5. Create a mutually respectful classroom environment.
6. Encourage you to ask and answer questions.

As students you have the following responsibilities:
1. Come prepared to every class.
2. Complete all work on time with proper thought.
3. Behave as responsible adults.
4. Consider that it is not always my fault if you don’t understand the material.
5. Treat others with respect.
6. Be familiar with basic functionalities of Microsoft Excel.
7. Learn the statistics software outside the classroom with guidance from the professor during office hours (SPSS, Minitab).

Text and Course Materials:

Grading and Evaluation:

<table>
<thead>
<tr>
<th>Grading Scale</th>
<th>Letter Grade</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>94-100</td>
<td>A</td>
<td>High Superior</td>
</tr>
<tr>
<td>90-93.99</td>
<td>A-</td>
<td>Superior</td>
</tr>
<tr>
<td>87-89.99</td>
<td>B+</td>
<td>Very Good</td>
</tr>
<tr>
<td>84-86.99</td>
<td>B</td>
<td>Good</td>
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<tr>
<td>80-83.99</td>
<td>B-</td>
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<tr>
<td>77-79.99</td>
<td>C+</td>
<td>Fair Good</td>
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<tr>
<td>74-76.99</td>
<td>C</td>
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</tr>
<tr>
<td>70-73.99</td>
<td>C-</td>
<td>Acceptable</td>
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<tr>
<td>67-69.99</td>
<td>D+</td>
<td>Barely Acceptable, Passing</td>
</tr>
<tr>
<td>63-66.99</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>60-62.99</td>
<td>D-</td>
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</tr>
<tr>
<td>&lt; 60</td>
<td>F</td>
<td>Failure</td>
</tr>
</tbody>
</table>

- Exam 1 (02/13/2018) 25%
- Exam 2 (03/15/2018) 30%
- Exam 3 (04/19/2018) 15%
- Quizzes (Everyday, at least one per chapter) 10%
- Assignments/Day work 15%
- Participation/attendance 5%

Instructor: Dr Marvin E Gonzalez
Teaching Method
Lecture, assigned reading, hands-on exercises, and cases. We will use e-learning as a support tool in the course, therefore, students should have the responsibility to learn how to use SPSS, Excel, and other statistical software. Any questions about Excel, SHOULD be done outside the classroom to avoid distracting the class objectives.

In-Class Exercises
Each class session will consist of a period of lecture/demonstration, followed by a period of in-class exercises. The exercises will consist of hands-on computer exercises, which will serve as the primary means for you to learn to use the software applications covered in this course, so take them seriously. In order to learn how to use any software application, you must practice using them…just watching and following along during the lecture period won't do it. You must be sure that before you leave the class you are capable of completing the exercises on your own. The in-class exercises are representative of what you will have to do on the exams; if you cannot work through the in-class exercises yourself then it is not likely that you will be able to pass the exams. You should also spend at least 5 hrs. per week outside the class working on the cases to fully understand the material covered in class. This time should allow you to understand the topics and apply them to solve real-world problems.

Policies and Procedures

Attendance Policies
• Students are expected to attend classes. You cannot expect to have a thorough grasp of the material if you miss class. You are responsible for all material or assignments that are covered in class.
• Students ARE NOT ALLOWED TO MISS more than 2 class. For each additional absence your participation will be affected by 2 points. If you miss more than 4 sessions, the professor will drop you for excessive absences. This policy is NON-NEGOTIABLE. You don’t have to come to the professor to excuse your absence, any absence counts for this rule!!!
• Attendance will be taken at the beginning or end of each period. Don’t bother to justify your absence since both justified and unjustified absences count for this rule. If you miss a session, the professor WON’T repeat the missed material on office hours, it is your responsibility to read on your own and ask your classmates for missing concepts.
• If you miss a session, the professor WON’T repeat the missed material during office hours, it is your responsibility to read on your own and ask your classmates for missing concepts.
• If you miss class and the next class (es) you ask for material covered during your missed class, the professor won’t answer the question. You must use OAKS mail to contact your classmates and recover from the missing class. The OAKS calendar will let you know what chapters you missed and you must read and understand all the material before coming to your next class.

Missing Exams:
No makeup exams will be given. It is impossible to make an equivalent exam without the student at either an advantage or disadvantage. If a student misses an exam without a legitimate excuse, s(he) will receive a grade of zero for that exam/quiz/assignment. If a student misses one exam with a legitimate excuse, s(he) can either choose to receive a grade of zero or do the missing evaluation the last day of classes, at the same time that the class and with none special options, if you miss 1 test and 2 quizzes for example, you need to do the missing evaluations the same day in 1 hr. and 15 minutes, no extra time will be given.

Note: Arriving late or leaving early will count as an absence. Leaving early - if you have to leave class early you must notify me at the beginning of the class and sit by the door so your departure will not disturb the class. Arriving late - if you are more than 5 minutes late to class, I reserve the right not to allow you into the classroom. If you are late, you will miss the evaluation of the day (QUIZ/ASSIGMENT/TEST)

Withdrawal Policy
Last day to Withdraw is March 13th

THE PROFESSOR DOES NOT PROCESS INSTRUCTOR WITHDRAWLS FOR ANY REASON

Section 11: College of Charleston Honor Code
All work that you submit in this course must be your own; unauthorized group efforts will be considered academic dishonesty. This is particularly important with regards to assignments and exams. The sharing or copying of program files (e.g., spreadsheets) is a form of plagiarism. Academic dishonesty is a serious offense, which may result in a failing grade for the course and/or report to the Honor Board for evaluation. If copying is involved, both parties will be judged equally guilty.

Section 12: Professional Behavior Guidelines:
Class sessions will be conducted on a lecture-discussion basis, focusing on the key concepts and issues relevant to the theory and practice of production and information technology. I will post class materials and grades on the course Oaks website accessible ONLY to students enrolled in this course. You are expected to access this website on a regular basis to download copies of my lecture slides, additional reading materials, check homework solutions, complete quizzes and review your grades. **You MUST have access to a reliable Internet connection and computer for this course.** There are a large number of computers with broadband Internet connection across the College campus. So if you do not have a computer at your home, you will be expected to utilize the College computers or another comparable source of Internet connection. **Class participation is an important and a required component of this course.** Participation extends beyond class attendance to include asking questions (in and out of class), involvement in class discussions and identifying current examples relevant to the course subject matter. **ALL CELL/DIGITAL PHONES, PAGERS, PDA’S OR OTHER ELECTRONIC EQUIPMENT MUST BE TURNED OFF BEFORE ENTERING THE CLASSROOM.** If your phone, pager or PDA rings or vibrates during class you will be asked to leave the classroom and I reserve the right not to allow you to return for the remainder of the class.

Students are expected to act in a professional manner at all times during class. No food should be eaten during class and all pagers, cell phones and other electronic equipment should be turned off during class.

**Tardiness:** Please arrive on time. If you are later than the start of the class for three times in the semester, it will count as one missed class. Tardiness to and early departure from classes accrue on a real-time equivalency, with the potential for a cumulative effect of absences.

**Side Conversations:** Side conversations make it difficult for your classmates to actively listen and learn. Sleeping: falling asleep in class is not considered professional behavior.

**Inattention:** Please don’t read other material (chat, browsing the web, books) or study for other courses during my class. It’s not polite. Please pay attention and join in the individual and group discussions. It will help you master the material.

**Cell Phone:** NO Cell phone are allowed during class, please put it in the backpack in mode silence. If the professor catch you texting he have the right to ask you to leave the class

**Printing:** Do not print outside work during class. I will turn off the printer at the beginning of class to prevent any interruption to the class.

**Navigating or other computer tasks different than class matters:** It is not polite to be doing course work or assignments other than the ones required in class. Also, it is not polite to navigate internet or check email while in class. One point will be taken out from your final grade for every time you do this in class. If you finish your work before other classmates, you might ask for permission to do other work in the computer and until given, you should not do other work.

**Miscellaneous Policies:**
- Although I will try to maintain the class schedule and objectives, I **may need to make adjustments.**
- **I do not give additional projects to increase one’s grade before or after the exam(s).**
- **No food or drinks allowed in the lab.**
Finally: If a problem develops during the semester or if you feel you need extra assistance with concepts in the course, do not hesitate to come to my office for help. The last thing I want is for you to do poorly in the course.

**Use my office hours for your benefit. That’s why I have them.**

**No Office Hours the TEST Day**