Advanced statistical analysis with applications in business and economics utilizing relevant computer software. Topics include business applications in descriptive and inferential statistics emphasizing such topics as simple and multiple regression, analysis of variance, forecasting, quality control, and non-parametric techniques.

**Academic Prerequisite:**
MATH 250 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. HOWEVER, THE PROFESSOR WON'T EXPLAIN IN DETAIL WHAT WAS EXPECTED FROM THE STUDENT TO LEARN IN MATH 250.

**Course 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.

This course addresses the following **School of Business learning goals:**
- **Goal 1: Quantitative Fluency.** Students demonstrate competency in logical reasoning and data analysis skills. **Demonstration of Achievement:** Each student will be assessed using exams, homework, quizzes during the semester.

**Course Materials**

**Teaching Method**
Lecture (videos), assigned reading, hands-on exercises, and problems. We will use e-learning as a support tool in the course, therefore, students should have the responsibility to learn how to use Excel (use the videos in Microsoft website to review Excel. The professor will assume you know ALL the tasks practiced in the videos posted in OAKS under Excel Basics).

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you log onto OAKS and monitor your progress through the class.

- **Online is NOT easier than a physical class environment.** On the contrary, if you don’t have the discipline and organization to keep up with the class on your own, online can be more difficult than regular physical environments.

- Much of the class will be run like a traditional course, except that the online format should encourage more exchanges between students than you might be accustomed to in a physical classroom. You will be expected to do the same sorts of activities that you do in a regular class such as reading and writing, guided by feedback from me, and heavy video watching and practicing on your own.

- It is essential that you stay on top of the course assignments. I will post due dates and reminders, but it is on you to make sure that you don’t get behind. Do not make the mistake of thinking this is an easy class because we’re meeting online. The material is quite difficult, and will take a lot of effort on your part to master. A regular physical class normally entails 3 hours of classroom time per week. This class covers 6.5 hours per week, plus 7 hours per week of study time. The workload for this class will be the same for you to succeed.

- **Weekends!** Although I expect you to be working on the course during weekends, you should not expect me to answer emails during Weekends or nighttime. My times to answer emails are 12:00 pm to 5 pm (until May 29th, and then between 8 am and 2 pm after that). Every now and then I answer emails outside the set time, however, do not expect me to do so on a regular basis. Maximum time for me to respond emails during the week is 24 hours. If I have not responded to your email within this time, please send the email again, and make sure you do not send it to “quesadag@cofc.edu”. My email address is “quesadag@cofc.edu”.

- **Students are expected to be polite and respectful in ANY communication with others in our course community.** This includes emails, discussion postings, etc. You are expected to study at least 7 hours per week additional to class in order to successfully understand the material!

### Attendance Matters

#### Attendance Policy

Failure to login and watch the assigned videos by the end of the week is considered as 4 absences (which is the equivalent of 4 days of 1 hour 15 min class periods). If you do not do the work on one week, your grade is F. Non-negotiable.

- **Quizzes, exams or in-class assignments (pop or announced) cannot be made up for ANY reason.**
- **You must check your Charleston email (g.cofc.edu) regularly; you should also correspond with me through this account only.** As part of theFERPA privacy laws, we are expected to communicate through the college’s email system, so following this policy is ultimately in your best interests.

### SNAP Students/Special Accommodations/Athletes

Students approved for SNAP services or athletes are required to present official letters to the professor within the first week of class. Failure to do this means the student waives the right for special accommodations for the remaining of the semester.

- No additional time will be given for quizzes. We measure in quizzes the ability of the student to respond within a specific time what is being tested, additional to answering the question correctly.
- For all other tests, the student should make an appointment at the Center for Disability Services at the same time that the rest of the class starts the exam (Lightsey Center 104). The student is responsible for not scheduling class right after this class if additional time is requested for exams. If the student decides to do the exam with the rest of the class, no additional time will be given.

### E-mail Business Etiquette

E-mail will be responded in 24 hours (except on Weekends). Do not abandon business etiquette in your use of e-mail! I will not respond to emails if you do not follow the below guidelines:

- **Business-like writing style (Dear Dr. Quesada, sincerely etc..)**
- **Be concise and to the point.**
- **E-mail alias so recipient sees your full name, or your full name with @g.cofc.edu, in his/her e-mail inbox.**
- **Subject line meaningful to recipient (identify your class DSCI-232-XX).** Always include this as your subject line!!! Including section number (XX).
- **Content clearly states the purpose of the e-mail including any action to be taken from the professor.**
- **Be careful about including quotations and sayings in your signature block.** Obviously don’t include anything that has potential to be offensive or misunderstood. Think about the impression your message sends to someone who doesn’t know you, and be judicious.

### Grading Structure

Your grade is not determined by how much time you put or how “hard” you feel you worked. It is actually on what you produce, the quality of your assignments and tests. Grades are yours to earn, not mine to give!

2 Exams........................................50%

Homework......................................50%

An “A” is reserved for truly excellent work. If you earn an “A”, you went above and beyond the call of duty not just with your efforts but also with your performance. A “B” indicates very good work. You did not just do the minimum requirements but you made an extra effort to show your skills, and your effort showed. A “C” means you did average work, you did what was asked and you did it satisfactorily – nothing less, nothing more. A “D” means you need to improve – you did below the minimum requirements. An “F” is guaranteed if you turn very poor work or you rarely participate in class.

### CofC Honor Code

Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each incident will be examined to determine the degree of deception involved.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students. A student found
responsible by the Honor Board for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. Students should be aware that unauthorized collaboration-working together without permission- is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer), copying from others’ exams, fabricating data, and giving unauthorized assistance. Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor. Students can find the complete Honor Code and all related processes in the Student Handbook.

Each student is expected to complete their own work in assignments/ quizzes/exams without additional help.

Technology Requirements

Hardware:
- Computer with high speed internet access, WebCam, sound and video card (to play videos and have skype office hours).

Software:
- Microsoft Office 2010 or higher (Windows Version).
- If you have a Mac, you can still use it for everything we do in class, but you will have to learn it on your own, if they happen to be different from the Windows version. If you are a Mac User, you must install StatPlus (for free) and learn how to use it on your own!
- Adobe Flash Player
- Adobe Reader
- Browser
- OAKS (you must check in OAKS everyday: Calendar/Assignments/New Videos, etc)
- Skype for online office hours: drquesada.cofc (you have to make an appointment since I don’t have it active all the time)
- Remind101 (texts or emails)

For help with basic Excel material that is not covered in the class:
- The Student is expected to have some Excel knowledge. If you lack this knowledge, please all videos posted under CONTENT-VIDEOS/TUTORIALS-EXCEL BASICS, in OAKS or click on the icons below.
- These videos/tutorials are mandatory and students should be able to duplicate all the material learned in those videos after the first week of class. The professor will assume the topics explained in these videos/tutorials are the base knowledge of all students after the first week of class!!!
- Links to all videos are posted on OAKS, including videos for Microsoft Office 2003-2016 and Mac.

Technical Support

If you have technical problems, please contact the Student Computing Support Desk at 843.953.5457 or email StudentComputingSupport@cofc.edu. Check for computing downloads and tutorials at blogs.cofc/scs/Resolve problems promptly. Computer failure/unavailability does not constitute an excuse for not completing assignments by the due date. You must not leave homework/quizzes/exams to the last minute! The professor won’t provide any technical assistance on connect or any computer related problem, you must use either Connect technical support or Student Computer Support Desk.

Missing Exams
- No makeup exams/quizzes will be given.
- Dates for exams are posted in the Calendar since week 1. If changes are made, the professor will notify them at least a week in advance.
- There will be NO MAKE UPS under ANY circumstances.
- A dropbox in OAKS will be opened to submit files during exams.
- EXAMS ARE INDIVIDUAL WORK. THE HONOR CODE WILL APPLY!!!!
MAJOR TOPICS COVERED

- Continuous Probability Distributions: Normal, t-Student, Chi-Squared and F.
- Interval Estimation.
- Hypothesis Testing – One Population
- Hypothesis Testing – Two Populations
- ANOVA Single Factor
- Simple Regression
- Multiple Regression
- Goodness of Fit Test
- Interval Estimation.
- Continuous Probability Distributions:

EXCEL ADVANCED FEATURES

- Test of Independence
- Goodness of Fit Test
- Multiple Regression
- Simple Regression
- ANOVA Single Factor
- Hypothesis Testing – Two Populations
- Hypothesis Testing – One Population
- Interval Estimation.
- Continuous Probability Distributions:

HOMEWORK POLICY

- Self-grading have many benefits. If you grade your own homework, you see exactly where your mistakes are. You also obtain feedback sooner than if the instructor collects the homework, grades it, and then, returns it some days later.
- A minute after the homework is due, you can go back to OAKS>GRADES>QUIZZES and click on the arrow next to the homework name. Then, select SUBMISSIONS and when the submissions show, click on ATTEMPT 1. You will be able to download an instructor key for the homework. Notice that the specific formulas vary by student, the downloaded version will have a standard, but you will have to double check with individual feedback for the questions.
- You must correct mistakes on your work using a different colored writing utensil. You must write a note about what you missed (such as math error or “wrong test statistic formula” or “did not multiply by 2”). Your student id number and HOMEWORK NUMBER should be on top of the first page.
- Write the score for each problem and the score for the whole assignment at the top of the front page.
- You must submit a scanned copy of your homework in OAKS (create one single file with the name of the homework corresponding to the HW number). Then, you must use the solutions posted to do the COMPLETE Self-Grading, and then, submit it right after within 24 hours of the first deadline of the homework. Failure to submit either the original or the self-graded homework will result in a 0. Self-graded homework is submitted in the same Dropbox as the original homework.
- ONLY ONE FILE SHOULD BE SUBMITTED EACH TIME. IF YOU HAVE MULTIPLE PICTURES, JUST CREATE A WORD DOCUMENT AND ADD EACH IMAGE TO A PAGE, MAKE SURE IT IS READABLE AND CLEAR. ALL HOMEWORK SHOULD SHOW THE WORKINGS ON BOOK TEMPLATES ASSIGNED.
- All homework require complete solutions scanned and uploaded to the Dropbox and the self-graded homework. The complete solutions require all diagrams, formulas, all parts of the templates completed (even if it is not requested in the online version of the homework) for it to be 100% correct. Please do not rely on incomplete solutions, all students should work hard on homework to prepare for tests. If you don’t have complete solutions in the Dropbox or the solutions don’t match the self-graded submissions, your grade will drop to 0 even if your electronic grade under “Quizzes” is 100.
- Failure to submit the self-graded homework results in a grade of 0 for that particular assignment. The same rule applies if the student does not complete all the work in the designated templates on the book with complete formulas, diagrams, etc.

Complaints about Exams Grading

- The professor encourages students to review in detail when exams/quizzes are returned. You have 3 working days after the graded evaluation is turned back to you to make any questions or complaints about it. If that time is passed, it means you have accepted the grade given and no further complaints are accepted.
- No complaints are accepted for any reason if the 3-day period has passed (non-negotiable).

Miscellaneous Policies:

- Although I will try to maintain the class schedule and objectives, I may need to make adjustments. You are responsible to check OAKS schedule for the most recent calendar of activities and dates. Don’t ask the professor about exams dates, since he/she will not give you as accurate information as the OAKS schedule.
- The professor does not give additional projects to increase students’ grades before or after the exam(s). The professor does not round grades, a 59.9 total grade is an F.
- The professor has the right to disable OAKS 5 hours before the test. You still have your book to study last-minute concepts. However, plan accordingly that you will have no access to data or videos or any other material in OAKS.
- Homework is individual work, and should be completed only by the student taking the course!!! Students will be able to obtain feedback 6 hours after the due date of the homework. No late homework assignments will be accepted under any circumstances.
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