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 104/250 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 104/250.

Course Objectives:
1. Students will gain practical experience in data visualization including graphical perception using software.
2. When given a business problem, students apply appropriate inferential statistical tests to reach to accurate conclusions.
3. Students can synthesize knowledge in different statistical tools to address sustainability problems.

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). All assignments, videos, assigned readings are MANDATORY at the end of the assigned week. No late assignments will be accepted under any circumstances!!! Solutions to assignments are usually posted right after due date. All students are expected to have access to their account in OAKS and are responsible for keeping their email account active and check it frequently. I will have to use the official g.cofc.edu email account. Course materials and links to each module will be placed in OAKS and you should regularly check-in for announcements and updates, CHECK THE CALENDAR REGULARLY TOO.

Is online for you?
- The asynchronous on-line format allows self-motivated, task-driven students the flexibility to complete coursework over the internet. If you are not self-motivated/task-driven, it might not be a good idea to take this course online!
- Because we don't actually meet face-to-face (only for the exams virtually), it's essential that you maintain an active presence in the class, checking OAKS regularly and viewing the assigned lectures/videos as soon as they are posted, before the next videos/lectures come! Remember that I can see when
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 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 for 16 weeks. This class covers 8 hours per week, plus 7 hours per week for 16 weeks. This class covers 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.

• **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 between 8 am and 3 pm. 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.

### 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 homework 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 the FERPA 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.

### E-mail Business Etiquette

E-mail will be responded in less than 24 hours (except on Weekends). Do not abandon business etiquette in your use of e-mail! I will not respond to e-mails 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-232-03). Always include this as your subject line!!! Including section number (03).
- **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!

### 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)
- Virtual Classroom in OAKS
- Remind101 (texts or emails)
- Voicethread for introductions

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.
- 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 u. Check for computing downloads and tutorials at http://blogs.cofc.edu/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 any computer related problem.

Missing Exams

- 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.
- For all exams, students will pay $15 fee per exam in order to use Remote Proctor Now. There will be a test using a quiz as a sample so you know how to use it before the exams. http://www.softwaresecure.com/remote-proctor-now-faq/

Failure to use remote proctor now will result in a grade of 0 for the specific exam.

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
- Test of Independence
- EXCEL ADVANCED FEATURES

TESTS

- Test of Independence
- Goodness of Fit Test
- Multiple Regression
- Simple Regression
- ANOVA Single Factor
- Hypothesis Testing – Two Populations
- Hypothesis Testing – One Population

CONTINUOUS PROBABILITY DISTRIBUTIONS

- Normal, t-Student, Chi-Squared and F.

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.

HOMEWORK POLICY (SELF-GRADING)

- Self-grading has 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 or see the formulas used to get to the solution. 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”). Failure to use a different colored writing utensil will reduce your grade by 20%.

- Your student id number-CID (found under GRADES in OAKS) 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.

- No complaints are accepted for any reason if the 3-day period has passed (non-negotiable).

- 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 before 11:59 pm on the homework due date. If you don’t submit homework, you lose the right to submit the self-graded HW if you do, your grade is still 0. If you get all problems correct (your grade is 100, you don’t need to submit a self-graded HW). Self-graded homework is submitted in the same Dropbox as the original homework. Failure to submit the self-graded HW results in a penalty of 20%.

- 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 WORKMUST SHOW THE WORKINGS ON BOOK TEMPLATES ASSIGNED. If you don’t follow these rules, you get a penalty of 20%.

- All homework (except Homework 1) 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 penalty of 30% 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.