Advanced statistical analysis with applications in business with the use of computer-based software. Topics include data visualization and inferential statistics (test of hypotheses, analysis of variance, and regression analysis).

**Academic Prerequisite:**
MATH 104 or 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 THE PREREQUISITE CLASS.

**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**
CUSTOM WORKBOOK.

**Teaching Method**
Lecture and 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). Any detailed questions about excel, should be done outside the classroom to avoid distracting class objectives.

All assignments, videos, assigned readings should be completed by CLASS start time on the assigned date. 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 on 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.

The official computer hardware is PC-windows based. If you are a Mac user, you must learn on your own how to use StatPlus, which pretty much takes care of everything (except for histograms). All videos are using a windows environment.

**ALL EXAMS ARE TO BE COMPLETED IN A WINDOWS ENVIRONMENT!!**

Quizzes and exams are time restricted, no additional time is allowed. We evaluate in this class productivity, which means that completing tasks in a specified time is part of our evaluation.

Computer failure/unavailability does not constitute an excuse for not completing assignments by the due date. The recommendation is to start homework as soon as it is posted, in that case, if you have a computer problem, you will have time to fix it before the due date/time.

**YOU are expected to study at least 7 hours per week additional to class in order to successfully understand the material!**

**Attendance Policy**
Attendance is required for every class session. Also, please be on time. Coming late is highly disruptive to everyone. To be early to class is to be on time. To be on time to class is to be late! The door will be locked once class has begun. If you show up after class has started, you will not be allowed to enter class.
- The combination of 2 absences (excused or unexcused) will result in the reduction of the final course grade to the next lowest grade (i.e. from B- to C+). Non-negotiable. Do not waste your allowed absences, keep them for when you really need them, i.e. sickness, family emergencies, etc. Excessive absences (five or more), excused or unexcused, will result in the student receiving a WA (an equivalent to an “F”) for the course. If a class is online, watching the assigned videos is the attendance record. If you don’t watch the assigned videos, you are considered absent.
- Quizzes, exams or in-class assignments (pop or announced) cannot be made up for ANY reason.
- It is your responsibility to obtain any material that you missed, but please get this information from another student. You are ultimately responsible for
information given in class, regardless of whether or not you were there. Emailing me to “see if we did anything important in class that you need to know about” is NOT the path to success in my class! I will not go over missed material in office hours. Again, you must contact a classmate and make sure you are ready before the following class.

- The appropriate use of technology for learning purposes is permitted. Students who are using cell phones at ANY time during class, you will be asked to leave and it will count as absence for the class. DO NOT GET ANGRY, OR SHOW DISRESPECT FOR SOMETHING THAT IS YOUR FAULT (not good). Just leave the class quietly and do not do the same the next class. Same rule applies if you behave rudely or are inconsiderate to all participants in class. If you are caught doing any of these more than once, not only you will have to leave class with an absence, but your course grade will fall by one letter grade (e.g. B to B-).
- Typing is distracted while material is being presented, therefore, laptops or tablets are not allowed for note taking. You are welcome to record the class, which is less disturbing or write notes the old fashioned way.
- 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.
- There will be some classes taught in an online format. Attendance is controlled by the mandatory videos assigned to watch during those dates. The first online class is August 22nd to catch up on material from Math 104/Math 250.

**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 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-232-09). Always include this as your subject line!!!
- 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.
- Although I expect you to be working on the course during weekends, you should not expect me to answer emails during Weekends or night time. My times to answer emails are 8:30 am to 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@g.cofc.edu”. My email address is “quesadag@cofc.edu”.

**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!

- 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 what was asked and you did it satisfactorily – nothing less, nothing more. If you earn an “A”, you went above and beyond the call of duty not just with your efforts but also with your performance.

Please note that occasionally, I will have unexpected meetings or other University activities during scheduled office hours. Therefore, I strongly encourage you to make an appointment to see me.

**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 use online meetings).

Software:
- Microsoft Office (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 learn how to use it on your own or use formulas such as “AVERAGE(), STDEV(), COUNT()”.
- Adobe Flash Player, Adobe Reader
- OAKS (you must check in OAKS everyday: Calendar/Assignments/New Videos, etc)
- Zoom for online office hours or meetings (you will get a link from the instructor).
- 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 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 at the end of week 1. If changes are made, the professor will notify them at least a week in advance. If changes in exams/ quizzes are made within regular class times, there is no excuse for a student to miss the test/ quiz because students are expected to be in class every session.
- There will be NO MAKE UPS under ANY circumstances.
- A dropbox in OAKS will be opened to submit files during exams.
- EXAMS AND QUIZZES ARE CLOSED BOOKS/ CLOSED ADDITIONAL MATERIALS AND 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

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

HOMEWORK POLICY

- 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.
- The day that homework is due, the professor will show you the answers in the first 5 minutes of class. You must have a red-ink pen and a copy of your homework so you can make corrections. If you make the corrections and upload it in OAKS dropbox under Homework corrections. This counts for 10% towards your homework grade.
- The homework assignment at the top of the front page.
- Write the score for each problem
- and the score for the whole assignment at the top of the front page. This must be submitted by 11:59 pm on the date that homework is due (use Genius Scan app to create a SINGLE pdf file to upload in OAKS).
- You must submit a scanned copy of your corrected homework in OAKS (create one single file with the name of the homework corresponding to the HW number). If you did not submit the original hard copy of homework, you CANNOT submit a self-graded homework in OAKS, or if you do, you don’t get any points.
- 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 requires complete solutions that include 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 quiz grade is 100.
- Failure to submit the self-grading homework results in a reduction of 10% 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.
- Homework 1 does not require a self-graded homework submission.