I. INSTRUCTOR

P. George Benson  
311 Tate Center  
843-860-5760  
bensong@cofc.edu

Classroom: Tate Center-Room 130  
Office Hours: Monday and Wednesday 12:30PM-1:30PM  
and by appointment

EXECUTIVE ASSISTANT

John-Anthony (JA) Thevos thevosjg@g.cofc.edu

Please prefix your email subjects with “DSCI 232” so they can be filtered. Example: DSCI 232 – help with probability

II. COURSE OBJECTIVES

The primary purpose of this course is to improve your “statistical thinking”. Statistical thinking is the recognition and exploitation of variation in problem solving and decision making. The term “problem solving” should be interpreted broadly, applying to strategic as well as operational problems.

Supporting objectives include improving your ability to execute certain basic statistical procedures that you learned in your introductory statistics course and to introduce you to more advanced statistical methods. While the course will introduce you to the logic and power of these statistical methods, you will not be expected to achieve the same understanding of these methods as would an expert statistician. The benefits you should derive from this course include increasing your ability to (1) critique statistical studies, (2) communicate with other managers and analysts, and (3) to improve the organizational and personal processes for which you are and will be responsible for throughout your career.

Upon completion of this course you should:

1. Be better able to manage statistical problem-solving processes.  
2. Be better prepared to manage and communicate uncertainty.  
3. Be able to communicate the results of complex statistical analyses in non-technical ways to nontechnical audiences.  
4. Understand the basic principles of measurement and the advantages and
disadvantages of various measurement and data collection methods.
5. Understand and be able to use basic descriptive statistics.
6. Understand and be able to use basic estimation, hypothesis testing, and regression methods.
7. Understand the basic principles of systems thinking, process management, and statistical process control.
8. Be able to use Microsoft Excel, a spreadsheet package, for doing statistical analysis.
9. Be able to take additional applied statistics courses and other business school courses requiring knowledge of basic data analytics and statistics.

III. COURSE PREREQUISITES

MATH 104 or MATH 250, which cover probability concepts, descriptive statistics, binomial and normal distributions, confidence intervals, and tests of hypotheses. Although some knowledge of these topics is expected, we will review the most important topics in class.

IV. CLASS FORMAT

Class time will be devoted to a combination of lecture, question-and-answer, problem-solving workshops, and discussion. You are encouraged to ask questions. Your ability to understand the lectures and ask meaningful questions depends on thorough preparation for class. It is assumed that you will have read the assigned material before class. Generally speaking, you should be spending from two to four hours preparing for each class.

V. ATTENDANCE POLICY

It is strongly recommended that you attend every class. The course material is cumulative. Your ability to comprehend tomorrow’s class content depends on your understanding of the material presented in all the preceding classes. In a cumulative course like this, you should not expect to succeed by simply cramming for exams.

VI. CENTER FOR STUDENT LEARNING

I encourage you to utilize the Center for Student Learning’s (CSL) academic support services for assistance in study strategies, writing skills, and course content. The CSL, located on the first floor of the library, offers a wide variety of tutoring and other academic resources that support many courses offered at the College. Services include walk-in tutoring, by appointment tutoring, study strategies appointments, Peer Academic Coaching (PAC), and Supplemental Instruction (SI). All services are described and all lab schedules are posted on the CSL website http://csl.cofc.edu/, or call 843.953.5635 for information.
VII. ACADEMIC 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. Incidents where the instructor determines the student’s actions are related more to a misunderstanding will handled by the instructor. A written intervention designed to help prevent the student from repeating the error will be given to the student. The intervention, submitted by form and signed both by the instructor and the student, will be forwarded to the Dean of Students and placed in the student’s file.

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 an XXF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the XX to be expunged. The F is permanent. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board. 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, which can be seen at the following link - http://studentaffairs.cofc.edu/honor- system/studenthandbook/index.php

VIII. DISABILITY STATEMENT

The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services / SNAP, located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying me, during my office hours or by email, as soon as possible, and for contacting me one week before accommodation is needed.

IX. COURSE EVALUATION

I would greatly appreciate it if you would critique this course through the course evaluation process at the end of the semester.
X. COURSE EXAMS AND QUizzes

<table>
<thead>
<tr>
<th>Points</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiz 1 (Jan 29)</td>
<td>20</td>
</tr>
<tr>
<td>Quiz 2 (Feb 12)</td>
<td>20</td>
</tr>
<tr>
<td>Exam 1 (Feb 26)</td>
<td>100</td>
</tr>
<tr>
<td>Exam 2 (March 25)</td>
<td>100</td>
</tr>
<tr>
<td>Quiz 3 (April 6)</td>
<td>20</td>
</tr>
<tr>
<td>Excel Homework</td>
<td>40</td>
</tr>
<tr>
<td>Final Exam (April 27 @ 7:30-10:30PM)</td>
<td>200</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
</tr>
</tbody>
</table>

All exams and quizzes will be closed-book and closed-notes, with no laptops, tablets or smartphones allowed. The final exam will cover all the material presented in the course.

It should be recognized that in the final analysis, grading is a subjective process. The above weighting scheme serves only as a baseline for determining your grade. Your final grade also depends on my perceptions of the amount of effort that you put into the course and the grasp of the material you demonstrate in class or during office hours.

XI. COURSE OUTLINE

*Answers to the odd-numbered exercises can be found in the back of the textbook

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
<th>Exercises*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/13</td>
<td>Introduction</td>
<td>Chapter 1:1.1-1.4, 1.7</td>
<td>1.1-1.4,1.11,1.12,1.21,1.22, 1.38</td>
</tr>
<tr>
<td>1/20</td>
<td>No Class: MLK Holiday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/27</td>
<td>Systems Thinking and Process Management</td>
<td>Reading #1, #2, #3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data and Measurement</td>
<td>Chapter 1 :1.5</td>
<td>1.25, 1.27, 1.33, 1.34, 1.37, 1.38</td>
</tr>
<tr>
<td></td>
<td>Excel: pp 36-38</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graphical Methods</td>
<td>Chapter 2: 2.3-2.7</td>
<td>2.4, 2.5, 2.8, 2.15, 2.25, 2.26, 2.27, 2.33</td>
</tr>
<tr>
<td></td>
<td>Reading #5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/3</td>
<td>Numerical Descriptive Methods</td>
<td>Chapter 2: 2.3-2.7, 2.10</td>
<td>2.37, 2.40, 2.43, 2.45, 2.54, 2.59, 2.89, 2.115, 2.117, 2.138, 2.141, 2.154, 2.162, 2.167, 2.169, 2.171</td>
</tr>
</tbody>
</table>
Probability
Chapter 3: 3.1-3.6

2/10 Probability Distributions
Chapter 4: 4.1, 4.2, 4.5, 4.6, 4.8

EXCEL WORKSHOP

2/17 Sampling
Chapter 1: 1.6

Sampling Distributions
Chapter 5: 5.1-5.3
5.55, 5.61, 5.67, 5.70, 5.72

2/24 Exam 1

WORKSHOP

Estimation: Mean
Chapter 6: 6.1-6.3
6.12, 6.13, 6.16, 6.19, 6.22, 6.29, 6.38

3/2 Estimation: Mean
Chapter 6: 6.5 (pp. 334-336 only)
6.75, 6.77, 6.118, 6.122, 6.137

Hypothesis Testing: Mean
Chapter 7: 7.1-7.2
7.10, 7.13, 7.15, 7.17

3/9 Hypothesis Testing: Mean
Chapter 7: 7.3-7.5
7.33, 7.36, 7.39, 7.41, 7.45, 7.59, 7.60

Hypothesis Testing: Mean
Chapter 7: 7.8 (pp. 408-410 only)
7.97, 7.102, 7.103, 7.123, 7.130, 7.136, 7.147

EXCEL WORKSHOP

3/16 SPRING BREAK

3/23 Exam 2

WORKSHOP

3/30 Statistical Process Control: Mean and Variance
Chapter 13: 13.1-13.8 (pearsonhighered.com)
13.5, 13.8, 13.11, 13.17, 13.19, 13.32, 13.33

Regression Analysis
Chapter 11: 11.1-11.3

4/6 Regression Analysis
Chapter 11: 11.4-11.5
11.45, 11.46, 11.47, 11.49, 11.59, 11.60, 11.63, 11.64
XII. TEXTBOOKS AND COURSE MATERIALS


2. Introduction to Excel:  

3. Introduction to Analysis TookPak:  

XIII. REQUIRED READINGS


All required readings are either available in OAKS (*) or distributed in class (**).

XIV. THE SCHOOL OF BUSINESS LEARNING GOALS:

COMMUNICATION SKILLS: Students demonstrate the ability, via both written and spoken word, to effectively present, critique, and defend ideas in a cogent, persuasive manner.

QUANTITATIVE FLUENCY: Students demonstrate competency in logical reasoning and data analysis skills.

GLOBAL AND CIVIC RESPONSIBILITY: Students identify and define social, ethical, environmental and economic challenges at local, national and international levels. Students integrate knowledge and skills in addressing these issues.

INTELLECTUAL INNOVATION AND CREATIVITY: Students demonstrate their resourcefulness and originality in addressing extemporaneous problems.

SYNTHESIS: Students demonstrate the ability to integrate knowledge from multiple disciplines incorporating learning from both classroom and non-classroom settings in the completion of complex and comprehensive tasks.