

# COURSE 160 – ELEMENTARY STATISTICS – SYLLABUS

Campbell University – Camp Lejeune, NC

Prerequisites: None

Instructor: Dana Ogden-Sutherland

Term: Spring I MW

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Jan 9, 2012 – March 5, 2012

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Time: 5:15 PM – 7:40 PM

## COURSE REQUIREMENTS

**Course Description:** This course is designed as a study of the general nature of statistics, organizing data; the basic and fundamental process pertinent to the system of statistics. The course emphasis is on the calculation and role of central tendency, variation, normal distribution, probability distributions, probability and effective communication of statistical findings.

**Text:** Bluman, Allan G.; Elementary Statistics, A Brief Version; 5<sup>th</sup> Edition; McGraw—Hill Company.

**Learning Outcomes:** The student should be able to demonstrate an understanding and/or usage of the following mathematical concepts:

Nature of Probability and Statistics	Probability
Frequency Distributions and Graphs	Discrete Probability Distributions
Data Description	Normal Distribution
Counting Techniques	Confidence Levels and Sample Size

**Expectations of Students:** Students will need the text, a calculator, a notebook, graph paper, pencils, color pencils and other materials as announced. Assignments shall be completed before class. Be prepared ask questions about assigned work and participate in discussions. Attendance and withdrawal policies are followed as outlined in Campbell University's student policy handbook. *All students are subject to the academic integrity and behavioral expectations of the University.*

**Grading Criteria:** Submission of all graded items is required to pass the course.

- Discrete Data Project	100 pts
- Continuous Data Project	100 pts
- Chapter 1, 2, & 3 Quizzes	25 pts each / 75 pts total
- Midterm	200 pts
- Probability Experiment	200 pts
- Final Exam	200 pts total

There will be two required exams, a comprehensive final, three activities and quizzes as announced. Late assignments will not be accepted for full credit. Late papers will be assessed a 10 pt deduction for each class period late. If you must miss a test notify the instructor before the test date. Make-up exams will not be provided without prior instructor approval of the absence. The make-up exam provided may not be the same as the exam taken in class.

## CAMPUS REQUIREMENTS

**Campbell University's Statement of Purpose:** Campbell University is a university of the liberal arts, sciences, and professions which is committed to helping students develop an integrated Christian personality characterized by a wholeness that includes: a method of critical judgment; an appreciation of our intellectual, cultural, and religious heritage; and a sensitive awareness of the world and society in which they live and work with persons.

This course is consistent with the aforementioned purpose and provides students a positive environment for learning.

**ADA Statement:** Students with documented disabilities who desire modifications or accommodations should contact the Office of Student Support Services located in the University's Hight House. Students can contact their home campus for further assistance.

**Attendance:** Campbell's attendance policy states that regular attendance is mandatory. Students may miss only 15% of classes. Any student missing more than 15% of classes may fail the course due to a lack of attendance.

- Classes meeting 1 time per week – 1 class per 9 week term  
(This includes blended classes.)
- Classes meeting 2 times per week – 3 classes per 9 week term
- Classes meeting 3 times per week – 4 classes per 9 week term

Students who are aware that they will miss a class should inform the instructor *before class*.

**Grading Policy:** Official grades are issued for each student at the end of each term. Students will be graded by the letter grade system shown below.

- A – 90 – 100 Excellent
- B – 80 – 89 Good
- C – 70 – 79 Average
- D – 60 – 69 Below Average
- F – Below 60 Unsatisfactory

**Incomplete Work:** A grade of Incomplete will not automatically be assigned to a student who does not complete the required course work. The student must make prior arrangements with and receive approval from the instructor.

**Inclement Weather:** Campbell University's policy is to remain in operation during periods of inclement weather. If extreme or emergency weather develops, the University will work through those situations as they develop.

**Internet/Email Requirements:** Students are expected to regularly monitor their Campbell email account. Important information or instructions may be emailed to these accounts.

**Plagiarism:** Plagiarism is any use of another person’s words or ideas without giving proper credit to the person from whom you borrowed the words or ideas. Plagiarism is the theft of intellectual property. Plagiarism includes the following:

- Failing to cite properly any direct or indirect quotation(s) from professionally written materials (books, journal articles, etc.) student papers, projects, presentations, etc.
- Submitting as your own work a paper, project, or presentation that you did not compose (that is, Write, compile, draw, etc.).
- Allowing another person to write your paper or develop your presentation or assignment.

Students who plagiarize will be subject to failing the assignment and/or failing the course. Additional sanctions may be imposed by the Campus Director. See the extended Campus Student Handbook for further information.

**Turnitin.com:** “Turnitin.com” is a web-based service that provides online reviews of written material to judge if it has been copied from another source. Turnitin.com is used to evaluate the possibility of a student plagiarizing or cheating on written material. The instructor may require students to submit written work in an electronic format for the purpose of utilizing the Turnitin.com service.

**Class Schedule:**

<b>Week 1</b>	<b>Basic Terms and Activity 1 (Discrete Data) Bar Graph, Pie Chart, and Other Graphs</b>	<b>Activity 1 Due</b>
<b>Week 2</b>	<b>Continuous Data, Frequency Distributions, Histogram, Frequency Polygon, and Ogive</b>	<b>Chapter 1 Quiz Due</b>
<b>Week 3</b>	<b>Variance, Standard Deviation and Other Graphs</b>	<b>Chapter 2 Quiz Due Activity 2 Due</b>
<b>Week 4</b>	<b>Review Chapters 1-3 and Test 1</b>	<b>Chapter 3 Quiz Due</b>
<b>Week 5</b>	<b>Terms, Basic Principles of Probability, Probability Distribution and Graph</b>	
<b>Week 6</b>	<b>Mean, Variance, Standard Deviation, Expected Value, Permutation and Combination</b>	<b>Probability Exp Due</b>
<b>Week 7</b>	<b>Binomial Experiment, Normal Curve and Z-Scores</b>	
<b>Week 8</b>	<b>Review, Questions, and Final Exam</b>	<b>Final Exam Due</b>

*Students are responsible to keep abreast of any and all changes to the schedule.*

**The General Education Competencies and Learning Outcomes of Campbell University are as follows:**

**I. Reading: Textual and Non-Textual:**

- 1. Students will be able to read competently in English from a variety of source types (e.g., mathematic, scientific, literary).**
- 2. Students will have basic reading comprehension in a second language.**
- 3. Students will be able to read with understanding, so as to be able to apply discipline methodologies and theories in the areas of Fine Arts, Humanities, Mathematics, and the Sciences.**
- 4. While reading, students will be able to recognize logical and compositional structures of various disciplines.**
  - 4.1. Students will be able to comprehend various linguistic, compositional elements and processes leading from a topic sentence to a conclusion.
  - 4.2. Students will be able to comprehend conclusions based on numerical and graphed data.
  - 4.3. Students will be able to interpret and apply mathematical formulas.
  - 4.4. Students will be able to read compositional elements and themes present in literature and the arts.

**II. Mathematics: Practical, Logical, and Speculative.**

- 1. Students will be able to solve problems that include basic skills necessary for life.**
  - 1.1. Students will be able to multiply, divide, add, subtract, and operate with fractions, decimals, and proportions.
  - 1.2. Students will be able to solve real world problems based on these primary skills.
- 2. Students will be able to think logically and organize information concerning algebraic problems.**
  - 2.1. Students will be able to use formulas and equations to create graphs and derive information.
  - 2.2. Students will be able to use appropriate mathematical terms and symbols.
- 3. Students will be able to use statistical inferences and elementary probability to aid in decision making and problem solving.**
  - 3.1. Students will be able to calculate measures, determine probabilities, test hypotheses, and test correlations using their mathematic skills and logic.
  - 3.2. Students will be able to apply their mathematical skills to understand scientific results of experimentation.

**III. Critical Thinking: Inquiry, Analysis, and Solution.**

- 1. Students will be able to make discipline specific inquiries.**
  - 1.1. Students will be able to use a variety of discipline-specific methods to recognize the existence of a problem.

1.2. Students will be able to use the proper methodologies to form questions about a problem at hand, and the implications of the question.

**2. Students will be able to solve a problem which has been discovered and defined.**

2.1. Students will learn to form relevant and concrete questions concerning evidence of a problem.

2.2. Students will be able to analyze the evidence defining a problem.

2.3. Students will be able to construct well-supported, clearly articulated, and sustained arguments based on evidence.

**3. Students will be able to reach a logical solution.**

3.1. Through asking the right questions, students will be able to eliminate false assessments and solutions.

3.2. Students will be able to recognize a true solution and articulate the reasons for making that recognition.

**IV. Communication: Verbal and Non-Verbal.**

**1. Students will learn to communicate verbally in written form.**

1.1. Students will be able to write an essay with a focused purpose.

1.2. Students will be able to support the essay's purpose with a logical and organized sequence of ideas and evidence.

1.3. Students will be able to use the proper level of diction for the subject and the audience of their essay.

1.4. Students will be able to use proper documentation for their essay's discipline and the discipline's methodology.

1.5. Students will learn to minimize errors in spelling.

1.6. Students will learn the basic computer software applications which can aid in their essay's presentation.

**2. At a basic level, students will learn to communicate through a language and culture not their own.**

2.1. Students will learn the compositional and communicative elements of a second language.

2.2. Students will learn elements of a culture associated with a second language.

**3. Students will learn a variety of primarily non-verbal means of communication.**

3.1. Students will learn a variety of non-verbal means of communication, such as spatial, graphic, mathematical, theatrical, aural, and visual.

3.2. Students will learn the process of combined oral and visual presentation in a public setting.

**V. Clarity in Value Formation: Spiritual, Interpersonal, and Physical.**

**1. Students will learn the sources, purposes, and processes of American national and spiritual sensibilities.**

1.1. Students will learn the basic methods of reading the Bible.

- 1.2. Students will learn the basic forms of Judeo-Christian ethics and ideals.
- 1.3. Students will learn basic differences between major world religions.
- 1.4. Students will learn the historic sources and events of the American process of democracy.
- 1.5. Students will learn the rich diversity in worldviews created by differing theological, political, social and economic systems.

**2. Students will learn the sources and purposes of their interpersonal sensibilities.**

- 2.1. Students will learn theories and models of human personality types.
- 2.2. Students will learn theories of the dynamics within human groups.

**3. Students will learn the sources and benefits of physical well-being.**

- 3.1. Students will learn the means of creating and maintaining physical well-being.
- 3.2. Students will experience various physical activities as a means to learn the benefits of physical conditioning.
- 3.3. Students will demonstrate a minimum proficiency in a physical activity (e.g., swimming, running, basketball, etc.).

**VI. Student Use of Technology: In the Sciences, Arts, and Humanities.**

**1. Students will learn to use technology in the laboratory, in the classroom, and for a variety of research efforts.**

- 1.1. Students will become familiar with available technology and its operation in the science laboratory, in classroom situations, and in research endeavors.
- 1.2. Students will learn the means of setting up and running experiments using equipment in a laboratory setting, and in other research situations.
- 1.3. Students will learn to decipher and interpret conclusions drawn from their use of technology in the laboratory and in other research situations.

**2. Students will learn to gather information using technology in the library and on the internet.**

- 2.1. Students will learn a library's digital organization, (e.g., homepage, search tools, catalogues, etc.).
- 2.2. Students will learn to use the library's digital resources to gain primary and secondary information.
- 2.3. Students will learn to use the resources of the internet properly in order to gain quality primary and secondary texts, images, and sounds.

**3. Students will learn how to use technology to present the information they have gathered.**

- 3.1. Students will learn the processes of creating visual and oral presentations by using software such as Microsoft PowerPoint and Office.
- 3.2. Students will learn to use technology for use in learning group activities (e.g., Blackboard, etc.).
- 3.3. Students will learn to use technology to assess the proper use of documentation (e.g., Turnitin.com, etc.).

## **Student Support Services:**

Students with documented disabilities who desire modifications or accommodations should contact the office of Student Success located in the University's Student Services Building (located between Carter Gym and the Wallace Student Center).

For academic and disability services, contact:

Laura Rich, Director of Student Success  
Student Services Building, room 113  
910-814-4364, or [supportservices@campbell.edu](mailto:supportservices@campbell.edu)  
Website: <http://www.campbell.edu/success>

For counseling services, contact

Christy Jordan, University Counselor  
Avrette House, 60 Pope Street  
910-814-5708 or 910-814-5709  
Website: <http://www.campbell.edu/student-services/counseling-services/>

For career services, contact:

Jayne Lachapelle, Career Services Coordinator  
Student Services Building, room 116  
910-814-5707, or [career@campbell.edu](mailto:career@campbell.edu)  
Website: <http://www.campbell.edu/student-services/career-services/>