

CCSU Stat 215-70 Statistics For Behavioral Sciences I Mr. William Gale Mon. & Wed. 6:45-8:00pm Room MS 117.
Text: Elementary Statistics: A Step By Step Approach (7thEdition) – Bluman - McGraw-Hill Companies, 2007 ISBN 0-07-353497-8

Prerequisite: CSU Math Placement Exam or a grade of C- or higher in Math 101.

Course Goals: The primary objective of this course is to introduce students to the beginning ideas of statistical inference. To reach this end, concepts and techniques of descriptive statistics, including measures of central tendency, variation, and correlation, elementary probability, probability distributions, and random sampling must be addressed.

Students for whom the course is intended: The Stat 215-216 sequence is designed to meet the needs and program requirements of social and behavioral science majors.

Class Policies, Supplies and Grading: Cell phones, beepers, palm-pilots and like electronic communication devices must be turned off while in class and during tests. Students are expected to be in attendance at all classes. **Attendance is required.** Three points per absence will be deducted from the final grade for each absence over two. Tardiness to class or leaving class early may result in partial absence deductions. A graphing calculator may be helpful for this course. The TI-83 is recommended, however if you already own and can operate a different calculator with statistical functions, do not buy a new one. Examinations are administered, as indicated below, with the final exam administered during the last week of classes as indicated by the University. Knowledge of Excel's statistical package and/or SPSS is recommended. SPSS is expected to be used for applications with descriptive and possibly inferential statistics. One half-test valued project, requiring the use of Excel or SPSS, will be included in grading. A portfolio of completed homework examples may be included in grading. At least six unannounced quizzes will be administered. The sum total of five quiz grades will equal one test. The topic for each quiz will be homework. As a matter of general policy, there will be no make-ups for tests or quizzes. Homework is assigned each class and will be discussed the following class. You are expected to complete the homework and engage in positive, meaningful discourse during class. You should expect 2–3 hours working on class material out of class for each 1 hour you are in class. You are responsible for understanding and abiding by the University's policy on academic integrity. Information on the policy may be found at <http://www.ccsu.edu/AcademicIntegrity/>. This policy is rigorously enforced by the Department of Mathematical Sciences. If Weather is threatening, cancellation of evening classes will be announced over Radio Station WTIC and others normally by 2:00 pm. Evening classes will not be automatically cancelled when day classes are cancelled. Central maintains a Snow and School cancellation line (832-3333) and posts cancellations on their Home Page.

Resources Available: If you need help, take advantage of the office hours. Do not wait until just before the test/quiz to do so. Free tutoring is available in the Learning Center, which is located in Copernicus, Room 241. A schedule for hours the Center is open will be read as soon as it's announced. A list of private tutors for hire is available in the math department office, Marcus White, Room 107, 832-2835. I suggest you form a study group with other students in the class. If you need to contact me during the day, you can do so by leaving a message in my CCSU mailbox. The box is located in the Learning Center, Nicholas Copernicus Hall Room 241 or e-mail, galew@ccsu.edu.

Special Notes - Withdrawal: The last day to withdraw from a course is, October 25. Approvals for withdrawal are not required; however, it is strongly recommended that students consult with their academic advisors prior to deciding to withdraw. Cessation of attendance, notice to the instructor, or telephone calls to the Enrollment Center are not considered official notice of a student's intention to drop the course. After October 25 withdrawals are allowed only under extenuating circumstances and require approval of the course instructor, department chair and dean of the School of Arts and Sciences.

Special Concerns: If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please inform me as soon as possible.

Office Hrs.: Mon & Wed: 5 - 6:30, (8 - 8:30 p.m. on request).

Location: Maria Sanford - Room, 211, or classroom.

E-mail: GALEW@ccsu.edu

Course Content, Outline & Assignments

| <u>Ch/Sec</u> | <u>Description</u> | <u>Assignment</u> |
|---------------|--|----------------------------|
| Chapter 1 | The Nature of Probability and Statistics | Class 1&2 |
| 1 | Introduction | Pg.2 - Read & Understand |
| 1.1 | Descriptive and Inferential Statistics | Pg.3 - Read & Understand. |
| 1.2 | Variables and Types of Data | Pg.6 - Read & Understand. |
| 1.3 | Data Collection and Sampling Techniques | Pg 9 - Read & Understand. |
| 1.4 | Observations and Experimental Studies | Pg13 - Read & Understand. |
| 1.5 | Uses and Misuses of Statistics | Pg16 - Read & Understand. |
| 1.6* | Computers and Calculators | Pg19 – TI-83+ |
| | Summary Review Exercises | Pg. 26 #1-29 alt. odd. |
| Chapter 2 | Frequency Distributions and Graphs | Classes 3-6. |
| 2 | Introduction | Pg. 36 – Read & Understand |
| 2.1 | Organizing Data | Pg. 46 - #1-19 alt. odd |
| 2.2 | Histograms, Frequency Polygons, and Ogives | Pg. 61 #1-19 alt. odd. |
| 2.3 | Other types of Graphs | Pg. 84 #1-24 alt. odd. |
| | Summary Review Exercises | Pg. 95 #1-22 alt. odd. |

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| <u>Ch/Sec</u> | <u>Description</u> | <u>Assignment</u> |
|------------------------------------|---|-----------------------------|
| Chapter 3 | Data Description | Classes 7&8. |
| 3 | Introduction | Pg. 104 - Read & Understand |
| 3.1 | Measures of Central Tendency | Pg. 118 #1-42 alt. odd. |
| 3.2 | Measures of Variation | Pg. 137 #1-49 alt. odd. |
| 3.3 | Measures of Position | Pg. 153 #1-31 alt. odd. |
| 3.4 | Exploratory Data Analysis | Pg. 166 #1-18 alt. odd. |
| | Summary Review Exercises | Pg. 173 #1-23 alt. odd. |
| Chapter 10 | Correlation and Regression* | Classes 9&10. |
| 10.1 | Scatter Plots & Correlation | Pg. 548 #1-30 alt. odd |
| Chapter 4 | Probability and Counting Rules | Classes 11&12. |
| 4 | Introduction | Pg. 182 - Read & Understand |
| 4.1 | Sample Spaces and Probability | Pg. 195 #1-43 alt. odd. |
| 4.2 | The Addition Rules of Probability | Pg. 204 #1-30 alt. odd. |
| 4.3 | The Multiplication Rules and Conditional Probability | Pg. 220 #1-55 alt. odd |
| 4.4 | Counting Rules | Pg. 233 #1-33 alt. odd. |
| 4.5 | Probability and Counting Rules | Pg. 240 #1-40 alt. odd. |
| | Summary Review Exercises | Pg. 243 #1-42 alt. odd. |
| Examination I | Chapters 1-4, | Class 10, Mid October |
| Chapter 5 | Discrete Probability Distributions | Classes 13-15. |
| | Introduction | Pg. 252 – Read & Understand |
| 5.1 | Probability Distributions | Pg. 258 #1-30 alt. odd. |
| 5.2 | Mean, Variance, Standard Deviation, and Expectation | Pg. 267 #1-26 alt. odd. |
| 5.3 | The Binomial Distribution | Pg. 277 #1-29 alt. odd |
| 5.4 | Other Types of Distributions (Optional) | Pg. 290 #1-21 alt. odd. |
| | Summary Review Exercises | Pg. 293 #1-39 alt. odd. |
| Chapter 6 | The Normal Distribution | Classes 16-19. |
| | Introduction | Pg. 300 – Read & Understand |
| 6.1 | The Normal Distribution | Pg. 311 #1-49 alt. odd. |
| 6.2 | Applications of the Normal Distribution | Pg. 325 # 1-42 alt. odd |
| 6.3 | The Central Limit Theorem | Pg. 338 #1-25 alt. odd. |
| 6.4 | The Normal Approximation to the Binomial Distribution | Pg. 346 #1-14 alt. odd. |
| | Summary Review Exercises | Pg.348 #1-17 alt. odd. |
| Examination II | Chapters 5-6. | Class 20, Late November |
| Chapter 7 | Confidence Intervals and Sample Size | Classes 21-25. |
| | Introduction | Pg. 348 Read & Understand |
| 7.1 | Confidence Intervals for the Mean (σ Known or $n \geq 30$) | Pg. 358 #1-25 alt. odd. |
| 7.2 | Confidence Intervals for the Mean (σ Unknown or $n < 30$) | Pg. 366 #1-21 alt. odd. |
| 7.3 | Confidence Intervals and Sample Size for Proportions | Pg. 374 #1-22 alt. odd. |
| 7.4 | Confidence intervals for Variance and Standard Deviation | Pg. 390 #1-13 alt. odd. |
| Chapter 8 | Hypothesis Testing | Classes 26-29. |
| | Introduction | Pg. 400 Read & Understand |
| 8.1 | Steps in Hypothesis Testing – Traditional Method | Pg. 412 #1-13 alt. odd. |
| 8.2 | z Test for a Mean | Pg. 422 # 1-27 alt. odd. |
| 8.3 | t Test for a Mean | Pg. 434 #1-20 alt. odd. |
| 8.4 | z Test for a Proportion | Pg. 442 #1-23 alt. odd. |
| 8.5 | X^2 test for Variance and Standard Deviation. | Pg.453 #1-15 alt. odd. |
| Examination III, Final Examination | Chapters 7-8. Wednesday December 15, 2010, 6:30 - 8:30 p.m. Plan accordingly. | |

This is not a contract. Circumstances may require modification.

Revised 8/25/2010

Policy Statement on Academic Misconduct

All students are expected to demonstrate integrity in the completion of their coursework. Academic integrity means doing one's own work and giving proper credit to the work and ideas of others. It is the responsibility of each student to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism. Students who engage in plagiarism and other forms of academic misconduct will face academic and possibly disciplinary consequences. Academic sanctions can range from a reduced grade for the assignment to a failing grade for the course. From a disciplinary standpoint, an Academic Misconduct Report may be filed and a Faculty Hearing Board may impose sanctions such as probation, suspension or expulsion.

For further information on academic misconduct and its consequences, please consult the Student Code of Conduct (<http://www.ccsu.edu/StudentConduct>) and the Academic Misconduct Policy (<http://www.ccsu.edu/AcademicIntegrity>).