

7. Read statistical graphs and use the graphs to analyze the data
8. Calculate measures of center (mean, median and mode and determine which is most appropriate)
9. Calculate measures of dispersion (range, variance and standard deviation)
10. Calculate measure of relative position (percentiles, quartiles and standard scores)
11. Determine if an observation is an outlier
12. Use the empirical rule and Chebyshev's Theorem to determine proportions of the data that fall in a particular range
13. Determine the sample space of a probability experiment
14. Calculate probabilities using the classical rules of probability
15. Calculate empirical probabilities
16. Construct and use probability distributions of discrete random variables
17. Calculate probabilities for binomial random variables
18. Calculate means, variances and standard deviations of discrete random variables
19. Find areas under the standard normal distribution
20. Calculate probabilities using the normal distribution
21. Find z-values for given areas under the standard normal curve
22. Find t-values for given areas under the Student t-distribution
23. Use the Central Limit Theorem to estimate the mean and standard deviation of the a sampling distribution of sample means and sample proportions
24. Calculate probabilities for population means
25. Calculate probabilities for the population proportions
26. Use a normal distribution to approximate the binomial distribution
27. Find a confidence interval for a population mean
28. Find the sample size needed for a particular margin of error
29. Find a confidence interval for a population proportion
30. Perform tests for significance (hypothesis tests) for a population mean
31. Use Microsoft Excel to do statistical calculations and construct statistical graphs

IV. Instructional Materials

Textbook: Beginning Statistics, Warren/Denley/Atchley. 2008 Hawkes Learning Systems/Quant Systems, Inc. REQUIRED

Software: Hawkes Learning Systems Courseware: Statistics This software comes bundled with books purchased at the bookstore. ISBN (for bundle): 978-1-932628-12-6. REQUIRED

Additional: Microsoft EXCEL 2000 or later, and internet access REQUIRED. A scientific calculator (Recommended) A graphing calculator will be fine, but is not necessary.

V. Evaluation

1) Tests

There will be five 100 point tests given during the semester. The content of each test will consist of material covered since the previous test. There will be no make up tests. Any test missed will receive the score of “0.” (See **Final Exam** section below.) Tests may be taken early with reasonable notice. *The average of all tests will count as 45% of the course grade.*

2) Hawkes Learning Systems Lessons

For most of the sections covered in the text there will a set of homework problems to be completed through the Hawkes Learning System. You do not have to be connected to the internet to complete (“certify in”) these lessons, but you will need access to the internet to submit a certification for each lesson completed. You will get **full credit** for completing the Lesson **on time**. The problems will be slightly different each time. *All HLS Lessons together are 10% of the course grade.*

3) Quizzes and Web Tests

There will be a homework Quiz in class or a Web Test in the Hawkes Learning System for each chapter covered (8 quizzes). In class Quizzes will come **directly from the homework problems** assigned, but students will **not be allowed to use their notes** or completed homework. Web Tests will be taken online outside of class. Once a Web Test is begun it must be completed. It can be taken anywhere the software has been installed and there is access to the internet. Each Web Test can be **taken twice** before the deadline. The *best* grade will be the one recorded and the questions will be slightly different each time. All students will receive slightly different tests. Students are allowed to use the textbook and notes for the Web Tests. The lowest Web Test score will be dropped. In class Quizzes cannot be made up. (See “Class Work” below.) *All Quizzes and Web Tests together are 15% of the course grade.*

Class Work

Occasionally problems will be assigned in class to be completed before the end of the period using notes, book, etc. Class work cannot be made up. The average of all class work will be used to replace your lowest in class Quiz.

4) Excel Assignments

There will be approximately 6 Excel assignments all to be submitted through Blackboard. These assignments will also be graded and returned through Blackboard. The lowest Excel score will be dropped. *All Excel assignments together are 10% of the course grade.*

5) Final Exam

A comprehensive final exam will be given during finals week. The score on the final can replace the lowest test score (including any missed test), as well as count for the final exam score. *The final exam is 20% of the course grade.*

Calculating Grades

The average in each category will be entered in the formula below to calculate the weighted average for the course grade:

$$\text{Course Average} = \frac{1}{45} \text{Test Avg} + \frac{2}{10} \text{HLS Avg} + \frac{3}{15} \text{Quizzes \& Web Tests} + \frac{4}{45} \text{Test} + \frac{5}{20} \text{Final}$$

Grades will be calculated and displayed in the Hawkes Progress Report online—NOT in Blackboard. Assignments not yet completed will not count against a student until they are past due or a score of 0 has been entered. This could overestimate a grade early on. The grading scale is as follows:

Course Average	Grade
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
Below 60	F

Late Work

No makeup work will be allowed for any graded assignment completed in class. (Tests, Quiz, or Class Work)

Web Tests will not be available after the deadline.

HLS Lessons may be completed late with a 25% penalty. Instead of 100% for certifying for a lesson, a late certification will receive only 75%. The date you submit the certification and not the date you actually complete the lesson is what is counted.

Excel Assignments may be submitted up to a week late, but students submitting **late work** will receive a score **no higher than the lowest score** of those students who submitted the same assignment on time.

Deadlines for all electronically submitted assignments (HLS Lessons, Web Tests, Excel Assignments) are before midnight on the due date. Assignments can always be completed early. *Do not procrastinate!*

VI. Attendance

Attendance will be taken at the beginning and if necessary at the end of class. To be counted present you must be in class the entire time the class meets. There is no makeup work for any graded assignment done in class. (See **Withdrawal Policy** below.)

VII. Cheating Policy

Cheating in any form will not be tolerated. Any student caught cheating will be given a "0" for that assignment and may be given a grade of "F" for the course and denied access to the course for the remainder of the semester. Students **must do their own work** and are not permitted any unauthorized assistance on any graded portion of this course. Students needing help with assignments should contact the instructor first. Calculators and sometimes access to Excel will be allowed during Tests or Quizzes. Mobile phones cannot be used as calculators. Any formula sheets and scratch paper allowed will be included with the test and must be returned with the test.

VIII. Withdrawal Policy (College Catalog p. 28 – 29)

The Last day to withdraw or be withdrawn from class and receive a "W" is **Monday, October 29, 2007**

Student-Initiated Withdrawal Policy

A student may withdraw from a class without academic penalty during the first sixty percent (60%) of a session. For purposes of enrollment reporting, the following procedures apply:

- a. If a student withdraws from a class prior to the termination of the add/drop period for the session, the student is removed from the class roll and no grade is awarded.
- b. After the add/drop period, but prior to completion of sixty percent (60%) of a session, a student who withdraws from a class be assigned a grade of "W." A grade of "W" implies that the student was making satisfactory progress in the class at the time of withdrawal, that the withdrawal was officially made before the deadline published in the college calendar, or that the student was administratively transferred to a different program.
- c. After that time, if a student withdraws from a class, a grade of "F" or "U" will be assigned. Exceptions to this policy may be made under documented mitigating circumstances if the student was passing the course at the last date of attendance.

A retroactive grade of "W" may be awarded only if the student would have been eligible under the previously stated policy to receive a "W" on the last date of class attendance. The last date of attendance for a distance education course will be the last date that work was submitted.

Late withdrawal appeals will be reviewed and a decision made by the Director of Student Services.

Instructor-Initiated Withdrawal Policy

A student who adds a class or registers after the first day of class is counted absent from all class meetings missed. Each instructor is responsible for keeping a record of student attendance in each class.

Students who have not attended class or picked up/accessed distance learning materials by the last day to drop the class and receive a refund must be withdrawn by the instructor during the following week. No refund will be applicable.

When a student's absences equal twice the number of weekly meetings of a class, the student may be dropped for unsatisfactory attendance in the class by the instructor.

When an instructor determines that absences constitute unsatisfactory attendance, an Instructor Withdrawal Form should be completed and submitted to the Admissions and Records Office within five days of when the student met the withdrawal criteria. The last date of attendance must be documented. A grade of "W" will be recorded during the first sixty percent (60%) of a course. Students withdrawn after the sixty percent (60%) period will receive a grade of "F" or "U" except under documented mitigating circumstances when a letter of appeal has been submitted by the student. A copy of this documentation must be placed in the student's academic file.

The student will be notified of the withdrawal by the Admissions and Records Office. An appeal for reinstatement into the class may be approved only by the instructor.

IX. Disability Statement

If you are a student with a documented disability who will require accommodations in this course, please register with the Disability Services Office located in the Counseling Center in Rooker Hall for assistance in developing a plan to address your academic needs.

X. Diversity Statement

The NRCC community values the pluralistic nature of our society. We recognize diversity including, but not limited to, race ethnicity, religion, culture, social class, age, gender, sexual orientation and physical or mental capability. We respect the variety of ideas, experiences and practices that such diversity entails. It is our commitment to ensure equal opportunity and to sustain a climate of civility for all who work or study at NRCC or who otherwise participate in the life of the college.