STAT 208 – BASIC STATISTICS

STAT 208 has the following course objectives:

• To develop a basic notion of statistics and its role in today's world;
• An introduction to basic probability; its role in various disciplines and its usage in statistical calculations;
• To understand the concept of statistical inference of generalizing from a sample to the whole, while controlling the amount of error incurred in the process;
• To develop statistical reasoning and an ability to apply this reasoning to real-life problems;
• To appreciate the universal applications of statistical methods in every aspect of modern life;
• To interpret the statistical results appearing in the public media and other places.

GRADING

• Your final grade will be based on the following components:
  o Four midterm exams, each worth 100 points.
  o Average of homework assignments weighted to 100 points. The lowest three assignment grades will be dropped before computing the average.

• There is no extra credit except for what is mentioned in this syllabus.

• With a total of 500 points possible, the cut points for letter grades A, B, C, and D will be no higher than 450, 400, 350 and 300 points, respectively.

• Please note that mistakes in your grades on homework and/or exams may occur. You have one week from the time the paper been handed back to notify the instructor of the mistake. If you wait longer than the one week, no change will be made to the grade.

• A grade of incomplete (I) will only be considered for students who are passing the course, but cannot complete the course due to health or family reasons.

EXAMS

• The midterm exams will be given during regular class time. The exact dates for these exams will be announced in lectures.

• All exams are closed-book, but relevant formulas will be provided at the exam. You may also use a hand-held calculator at the exams.

• It is your responsibility to bring (i) NIU picture ID, (ii) pencil, (iii) eraser, and (iv) calculator for exams. Sharing of any of these items is not allowed. You would be expected to do all calculations by hand if you do not have a calculator. You cannot use calculators in cell-phones, PDAs or laptops. Cell phones are to be turned off (not just muted) and kept away during exams.

• It is important to be on time for exams. If you arrive late and one or more students have already submitted their exams and left the room, then you may (and probably will) be denied the opportunity to take the exam. In such cases, you may be given a zero on the exam, or you may be given a make-up. The decision will be up to the Instructor.

• Make-up exams will only be given when a student has a planned, documentable, and excusable absence on a test date and personally negotiates the make-up in advance. For sudden, documentable, and excusable absences (illness, death, etc), the points from the missed exam will be added to the fourth exam. Unexcused absences (oversleeping, forgetting, etc.) will result in a score of zero.
HOMEWORK

- Homework is due in your recitation period, unless other arrangements are made with your TA. The assignments will be due on the date indicated. No late homework will be accepted. Please do not give any assignments to your instructor.

- Students are allowed to discuss homework assignments, but you should not look at another student’s paper. Each student must write his/her solutions in their own way, using their own words.

- Assignments are to be neat and presented logically on loose-leaf paper. If more than one sheet of paper is used, the assignment must be stapled together. Please do not ask your instructor or TA for use of a stapler. Spiral paper is unacceptable. If your assignments are messy, disorganized or do not follow the stated instructions, you will not receive credit for that assignment. You are to show all your work. Just stating an answer (for example, from the back of book) will not ensure full credit.

- Please note that because of the quick pace of this course it is unlikely that all of your homework will be graded and returned to you before the exams. You may want to make copies of your homeworks before turning them in.

QUIZZES

- Announced quizzes and/or pop quizzes will be given. The average of all quizzes will be weighted to 25 points. These points will be added to your total at the end of the semester as extra credit. No makeup quizzes will be given.

MISCELLANEOUS

- You are encouraged to ask questions and to participate in class discussions, however talking in class while the instructor is lecturing is highly frowned upon.

- Cell phones are to be muted or turned off during lectures, recitations and visits to office hours and kept away during exams and quizzes. Violations will be considered as class disruptions, or worse, and will be treated accordingly.

- Texting during class is not allowed. If you are caught, your phone will be confiscated for the remained of the class period. If you are caught texting a second time, you will be asked to leave the class for that day.

- It is your responsibility to be sure that your work is turned in and that you receive the notes and announcements. Missing an announcement will not be accepted as a valid excuse for missing an event (test, quiz etc.). If you frequently miss class the instructor reserves the right to deny office hour privileges to you.

- Late arrivals and early departures from class are strongly discouraged, except in cases of emergency.

- Students are to remain for the entire session unless excused by the instructor beforehand or confronted with a serious person emergency. For instance, it is not acceptable for students to walk in and out of class to answer cell phones, take casual bathroom and smoking breaks, or attend to other personal matters.

- It is not acceptable to use an iPod, read a newspaper, use a laptop for anything other than taking class notes, or engage in other behavior that distracts one from the class proceedings once the session has begun.

- The Statement of Academic Integrity in the Undergraduate catalog will be strictly enforced with regard to homework assignments, quizzes, and exams.

- If you have a disability, please make arrangements with the Center for Access-Ability Resources (CAAR) early in the semester, and let me know.
• The syllabus may be changed at any time. Changes will be announced in lecture.

• Suggestions
  o To do well in this course, you should attend class regularly.
  o Please try to keep up with the class. If you fall behind, then you will have to work much harder to catch up.
  o Note that homework and quizzes combined are 15% of the total points. You have the opportunity to score a lot of points there.
  o If your quiz scores are consistently poor, then that is a red flag that something is going wrong.
  o Please feel free to talk to your TA or instructor. If you are falling behind or getting lost, then do not wait; act on it as soon as possible. Get help, spend more time studying, form study groups, go to your instructor's office hours, go to the Statistics Assistance Center (DuSable 326) - do whatever works for you.
<table>
<thead>
<tr>
<th>Day of</th>
<th>Material Covered</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>June 13, 14</td>
<td>Chapters 1, 2 &amp; 3: Data/Variables and Categorical Variables</td>
<td>Read Chapters 1 &amp; 2</td>
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| June 15, 16   | Chapters 3 & 4: Categorical Variables and Displaying and Summarizing Quantitative Data | Ch 2: 15, 16, 17, 22, 23  
Ch 3: 13, 14, 19, 25, 26, 27, 28, 29, 31, |
| June 20, 21   | Chapter 4, 5 & 6: Understanding and Comparing Describing Distributions, and Standard Deviation as a Rule | Ch 4: 5, 6, 7, 8, 9, 11, 12, 23, 24, 29, 30, 31, 34, 37, 38, |
| June 22, 23   | Chapter 6: Normal Curves, Exam 1                      | Ch 5: 20, 21, 29, 30, 33, 34                                                  |
| June 27, 28   | Chapter 7: Scatter plots, Association and Correlation  | Ch 6: 7, 8, 9, 11, 12, 14, 19, 20, 21, 22, 27, 28, 32, 33, 39 thru 48 (all), 51, 52, 53, 54, |
| June 29, 30   | Chapter 8: Linear Regression                          | Ch 7: 1, 4, 5, 6, 11, 12, 23, 24, 25, 26, 36, 39                               |
| July 5        | Chapter 8: Linear Regression                          |                                                                             |
| July 6, 7     | Chapters 12 & 13: Sample Surveys & Experiments and Observational Studies | Ch 8: 11, 12, 15, 16, 19, 20, 27, 28, 29, 30, 33, 34, 39, 40, 55(omit f), 62(a-d), |
| July 11, 12   | Chapter 13: Experiments and Observational Studies, Exam 2 | Ch 12: 1, 2, 3, 4, 7, 8, 13, 14, 19, 20, 21, 23, 25, 29, 30, 31, 34, 36, |
| July 13, 14   | Chapter 14: Probability                               | Ch 13: 1, 2, 7, 8, 9, 10, 16, 17                                           |
| July 18, 19   | Chapter 18: Sampling Distribution Models              | Ch 14: 1, 2, 4, 6, 7, 11, 12, 13, 14, 15, 16, 19, 21, 23, 26, 28, 31, 32, 33, 34, 35, 36, 37, 38, |
| July 20, 21   | Chapter 19: Confidence Intervals for Proportions      | Ch 18: 5, 6, 7, 8, 11, 16, 21, 22, 28, 29, 30, 33, 37, 38, 48, 49, 50, 51, |
| July 25, 26   | Chapter 20: Testing Hypotheses about Proportions, Exam 3 | Ch 19: 1 thru 10, 13, 14, 17, 22, 24, 28, 35, 38, 40                          |
| July 27, 28   | Chapters 20 & 23: Inferences about Means              | Ch 20: 1 thru 5, 8, 15, 16, 19, 23, 25, 27, 28, 30, 32, 34                |
| Aug 1, 2      | Chapters 23 & 24: Comparing Means,                   | Ch 23: 1, 2(round df down to a value in the table), 5, 6, 13, 14, 18, 33, 34, 35(only b), 36(only b), 37, 38, 42(remove outlier, s=3.55), |
| Aug 3         | Chapter 24 & Review                                   | Ch 24: 7, 9, 11, 27, 29, 33, 35, 43                                        |
| Aug 4         | Exam 4                                                |                                                                             |