STAT 350 Section-2    Introduction to Probability and Statistics    Spring 2015

Instructor: Joel Gimbel    Course & Location: MWF 11:00-11:50am DU204
Office: DU 356    Phone: 753-2012    e-mail: gimbel@math.niu.edu
Office Hours: MWF 9:15-9:50am, MW 2:00-3:15pm, or by appointment

TA: Contact: Philippe Dovedo 753-1723; pdovedo1@niu.edu    Office Hours: See Blackboard Contacts

TEACHING PHILOSOPHY:
Students should be confident and critical consumers of data. I try to minimize the anxiety associated with
statistics and provide a relaxed environment for students to explore the main topics of the course.

STAT 350 COURSE DESCRIPTION:
Introduction to the basic ideas and fundamental laws of probability including sample spaces, events,
independence, random variables, special probability distributions and elementary statistical inference.
Credit Hours = 3
Prerequisites & Notes: PRQ: MATH 230.

STAT 350 LEARNING OUTCOMES:

• To develop a basic understanding of statistics and statistical methods and their roles in today's
  world
• To develop a basic understanding of probability based on concepts from integral and differential
  calculus
• To develop a basic understanding of the methods for statistical inference based on concepts from
  integral and differential calculus
• To develop logical thinking as applied to statistical reasoning
• To develop abstract thinking as applied to statistical reasoning
  To develop statistical problem solving skills
• To appreciate the correct application and interpretation of statistical methods

STUDENT ASSESSMENT:

Grading:

• Your final grade will be based on the following components:
  o Two midterm exams, each worth 100 points.
  o The final exam is cumulative and worth 150 points.
  o Average of your homework assignments weighted to 50 points. The lowest homework grade
    will be dropped before computing the average.
  o Average of your quizzes weighted to 50 points. The lowest quiz grade will be dropped before
    computing the average
• With a total of 450 points possible, the cut-off points for the letter grades will be no higher than those listed in the Grade Scale below:

<table>
<thead>
<tr>
<th>Stat 350</th>
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<tbody>
<tr>
<td>Letter Grade</td>
<td>Cut off Points</td>
</tr>
<tr>
<td>A</td>
<td>418</td>
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<tr>
<td>A-</td>
<td>405</td>
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<tr>
<td>B+</td>
<td>391</td>
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<tr>
<td>B</td>
<td>373</td>
</tr>
<tr>
<td>B-</td>
<td>360</td>
</tr>
<tr>
<td>C+</td>
<td>346</td>
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<tr>
<td>C</td>
<td>315</td>
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<tr>
<td>D</td>
<td>270</td>
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<tr>
<td>F</td>
<td>Below 270</td>
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• 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 lecture.
• All exams are closed-book, but relevant formulas will be provided at the exam. You may use a handheld calculator at the exams. Sharing of calculators is not allowed. You cannot use calculators in cell phones, PDAs, or laptops. Cell phones are to be turned off and kept away during exams.
• 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 final exam. Unexcused absences (oversleeping, forgetting, etc) will result in a score of zero.
• The Final Exam is on Saturday, May 2nd, from 2:00 – 3:50pm. This is a Mass Exam with different timing from the standard final exam schedule. The Final Exam room will be announced in lecture. The Final Exam is cumulative.

Homework

• There are a total of 8 Homework Assignments. The exact assignments and due dates will be announced in lecture. No late homework will be accepted.
• 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. Non perforated paper from spiral notebooks is unacceptable. You are to show all your work. If your assignments are messy,
disorganized or do not follow the stated instructions, they will be returned and you will not receive credit for the assignments.

- 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.
- Please note that because of the quick pace of this course it is unlikely that all of your homeworks 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 in lecture.
- Dates will be announced in lecture.
- No makeup quizzes will be given.

**ACCESSIBILITY:**

- If you have a disability, please make arrangements with the Disability Resource Center (DRC) early in the semester, and let me know.
- Northern Illinois University is committed to providing an accessible educational environment in collaboration with the Disability Resource Center (DRC). Any student requiring an academic accommodation due to a disability should let his or her faculty member know as soon as possible. Students who need academic accommodations based on the impact of a disability will be encouraged to contact the DRC if they have not done so already. The DRC is located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 (V) or drc@niu.edu.
- NIU’s updated policies on Academic Integrity, Attendance and Accommodations for Students with Disabilities are now available at: [http://www.niu.edu/stat/courses/pdfs/Accessibility_Statement.pdf](http://www.niu.edu/stat/courses/pdfs/Accessibility_Statement.pdf)

**ACADEMIC INTEGRITY STATEMENT:**

- The Statement of Academic Integrity in the Undergraduate catalog will be strictly enforced with regard to homework assignments, quizzes, and exams.
- Please see: [http://www.niu.edu/stat/courses/pdfs/Accessibility_statement.pdf](http://www.niu.edu/stat/courses/pdfs/Accessibility_statement.pdf) for policies on academic integrity, attendance and accommodations for students with disabilities.

**GUIDELINES AND GENERAL INFORMATION:**

- 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.
- It is your responsibility to be sure that your work is turned in and that you receive the notes and announcements (all announcements are made at the beginning of class). 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 personal emergency.
- It is not acceptable to listen to music, read a newspaper, use a laptop for anything other than taking
  class notes, study for other classes, or engage in other behavior that distracts one from the class
  proceedings once the session has started.
- The syllabus may be changed at any time. Changes will be announced in lecture.
- **Suggestions:**
  - To do well in this course, you should attend class regularly.
  - Please try to keep up with the class. If you fall behind, then you will have to work much
    harder to catch up.
  - If your quiz scores are consistently poor, then that is a red flag that something is going
    wrong.
  - 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.
  - **The Stat Assistance Center (SAC)** located in DU 326 offers tutoring to STAT 350 students.
    Tutoring is provided by TAs, the TA who is teaching your recitation as well as TAs from
    other recitation sections. A schedule of which TA is available and at what time(s) will be
    posted on the door of DU 326 and on the Division of Statistics website. ACCESS (Access to
    Courses and Careers through Educational Support Services) and PAL (Peer Assisted
    Learning) Walk-in Tutoring Centers are open to all NIU undergraduates. Students in STAT
    courses are the second heaviest users of these services. These services are available at New
    Hall, West Hall Room B004, Grant South Lower Level, and Founders Library Room 302. For
    more information, see [www.tutoring.niu.edu](http://www.tutoring.niu.edu), E-mail ACCESS@niu.edu or go to Williston
    Hall Room 100.
# Tentative Schedule

<table>
<thead>
<tr>
<th>Week of</th>
<th>Sections Covered</th>
<th>Assignments</th>
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<tbody>
<tr>
<td>January 12</td>
<td>1.1 – 1.4</td>
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<tr>
<td>January 19</td>
<td>2.1 – 2.3</td>
<td>Ch 1: 18(a,b), 20(b), 25, 34(a,b), 42, 44, 45(a,b,d), 52</td>
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<tr>
<td>MLK Day (1/19)</td>
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<td>January 26</td>
<td>2.4 – 2.5</td>
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<tr>
<td>February 2</td>
<td>3.1 – 3.2</td>
<td>Ch 2: 9, 11, 12, 26(a,b), 45, 46, 50, 59, 60, 74, 78, 80, 84</td>
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<td>February 9</td>
<td>3.3 – 3.4</td>
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<tr>
<td>February 16</td>
<td>3.6, Exam 1 (Fri 2/20)</td>
<td>Ch 3: 13(a,b,c,d), 18, 24, 29, 30, 32, 46, 48, 53, 80, 82</td>
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<td>February 23</td>
<td>4.1 – 4.3,</td>
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<tr>
<td>March 2</td>
<td>5.1-5.3</td>
<td>Ch 4: 1, 2, 5, 11, 12(a,b,c), 17, 28(a,d,g,i), 29, 31, 32, 33, 35, 40, 54</td>
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<tr>
<td>March 9</td>
<td>SPRING BREAK</td>
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<tr>
<td>March 16</td>
<td>5.4, 5.5</td>
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<tr>
<td>March 23</td>
<td>7.1 – 7.3</td>
<td>Ch 5: 3(a,b,d), 4, 7, 22, 30, 46, 47, 50, 60</td>
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<tr>
<td>March 30</td>
<td>8.1 – 8.2 Exam 2 (Fri 4/3)</td>
<td>Ch 7: 1, 4(a,b,c), 5, 7, 13(a), 20, 23, 28, 32, 37(a)</td>
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<td>April 6</td>
<td>8.3 – 8.4</td>
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<tr>
<td>April 13</td>
<td>8.5, 9.1 – 9.2</td>
<td>Ch 8: 4, 7, 16, 26, 32, 34(a), 39, 43(a), 48, 50, 55</td>
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<td>April 20</td>
<td>9.3 – 9.4, 12.1</td>
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<tr>
<td>April 27</td>
<td>12.2, Review</td>
<td>Ch 9: 3, 19, 20, 25, 29 (use RR approach not a p-value approach), 36, 50(a), 51, 52</td>
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<tr>
<td>Reading Day (5/1)</td>
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<td>Ch 12: 24(a,b)</td>
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Final Exam: Saturday May 2nd; 2:00 - 3:50pm, Room TBA