STAT 350-00H1                     Introduction to Probability and Statistics - Honors                     Spring 2015
3.0 credit hours
Instructor: Claudine Myers Course Location: M, W, F 1:00
Office: DU 356 Cell Phone: 815-601-1201 e-mail: myers@math.niu.edu
Office Hours: M, W, F 10:00 AM and by appointment
TA: Rexford TA Office Hours: DU326

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.
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

Teaching Philosophy: Standard lecture supplemented with engaged student directed learning explorations and writing enhanced course activities to develop career ready analytical skills.

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 (announced and unannounced) and honors projects weighted to 50 points. The lowest two quiz grades will be dropped before computing the average
• With a total of 450 points possible, the cut-off points for the letter grades A, A-, B+, B, B-, C+, C, and D will be no higher than 418, 405, 391, 373, 360, 346, 315, and 270 points, respectively.
• 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 hand-held 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 (not just muted) and kept away during exams.
• Make-up exams will only be given in advance 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.

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. 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. The average of all quizzes will be weighted to 50 points.
• Announced quiz dates will be announced in lecture.
• For all quizzes, you will be responsible for bringing a clean copy of the Formula Sheet and Tables.
• 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.

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
  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.
• 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 (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. 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, study for other classes, or engage in other behavior that distracts one from the class proceedings one the session has started.
• 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 22% of the total points. You have the opportunity to score a lot of points there.
- 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. Get help, spend more time studying, form study groups, go to your instructor's office hours and/or TA's office hours.

- **Tutoring available to Stat 350**
  - 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 at what time(s) will be posted in 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, Founders Library Room 302. For more information, see 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>
</tr>
</thead>
<tbody>
<tr>
<td>January 12</td>
<td>1.1 – 1.4</td>
<td></td>
</tr>
<tr>
<td>January 19 MLK Day</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>
</tr>
<tr>
<td>January 26</td>
<td>2.4 – 2.5</td>
<td></td>
</tr>
<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>
</tr>
<tr>
<td>February 9</td>
<td>3.3 – 3.4,</td>
<td></td>
</tr>
<tr>
<td>February 16</td>
<td>3.6, Exam 1</td>
<td>Ch 3: 13(a,b,c,d), 18, 24, 29, 30, 32, 46, 48, 53, 80, 82</td>
</tr>
<tr>
<td>February 23</td>
<td>4.1 – 4.3</td>
<td></td>
</tr>
<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,j), 29, 31, 32, 33, 35, 40, 54</td>
</tr>
<tr>
<td>March 9</td>
<td>Spring Break</td>
<td></td>
</tr>
<tr>
<td>March 16</td>
<td>5.4, 5.5,</td>
<td></td>
</tr>
<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>
</tr>
<tr>
<td>March 30</td>
<td>8.1 – 8.2, Exam 2</td>
<td>Ch 7: 1, 4(a,b,c), 5, 7, 13(a), 20, 23, 28, 32, 37(a)</td>
</tr>
<tr>
<td>April 6</td>
<td>8.3 – 8.5</td>
<td></td>
</tr>
<tr>
<td>April 13</td>
<td>9.1 – 9.2,</td>
<td>Ch 8: 4, 7, 16, 26, 32, 34(a), 39, 43(a), 48, 50, 55</td>
</tr>
<tr>
<td>April 20</td>
<td>9.3 9.4, 12.1</td>
<td></td>
</tr>
<tr>
<td>April 27</td>
<td>12.2, Review</td>
<td>Ch 9: 3, 19, 20, 25, 29 (do not use the p-value approach), 36, 50(a), 51, 52</td>
</tr>
<tr>
<td></td>
<td>Reading Day Friday, May 1</td>
<td>Ch 12: 24(a,b)</td>
</tr>
</tbody>
</table>

*Final Exam: Saturday, May 2, 2:00-3:50 pm, Room TBA on the Division of Statistics Web Site*
STUDENT ACKNOWLEDGEMENT STAT 350

Please return this to your instructor by the end of the second week of class

"I, ________________________________, have completely read this syllabus and understand and agree to the course requirements."

Please indicate below any special needs or circumstances that may have some impact on your work in class, and for which you require special accommodations. Documentation of such circumstances must be stapled to this form. Such accommodations may include but are not limited to medical needs, athletic competition, religious observances, physical or mental disability, in ability to arrive in class on time or need to leave class early.

Circumstances or Special Needs: ____________________________________________

Signature: ____________________________________________

Date: ____________________________________________