

COURSE INFORMATION

- Lecture: MW 5 – 6:15 pm DuSable 340
 Instructor: Chris Benshoof Office: DuSable 374 Office Phone: (815) 753-1723
 E-mail: cbenshoof1@niu.edu Office Hours: Wednesday and Friday 12:30 – 1:30
- Recitation
 - Section C1: Monday 6:30 – 7:20 pm DuSable 410
 Graduate TA: Chenshuang Lu E-mail: clu1@niu.edu
 Office: DuSable 374 Office Phone: (815) 753-1723 Office Hours: M, W, F 9:30-10:30
 - Section C2: Wednesday 6:30 – 7:20 pm DuSable 410
 Graduate TA: Chenshuang Lu E-mail: clu1@niu.edu
 Office: DuSable 374 Office Phone: (815) 753-1723 Office Hours: M, W, F 9:30-10:30
- Blackboard Page: <https://webcourses.niu.edu/webapps/portal/frameset.jsp>

COURSE DESCRIPTION

Introduction to basic concepts in statistical methods including probability, theoretical and empirical distributions, estimation, tests of hypotheses, linear regression and correlation, and single classification analysis of variance procedures. Not available for credit toward the major in mathematical sciences. Not used in major GPA calculation for mathematical sciences majors. Prerequisites: MATH 206 or MATH 210 or MATH 211 or MATH 229. Credit Hours: 4.

COURSE OBJECTIVES

- To develop basic notions of statistics and statistical methods and their roles in today's world
- To develop a basic understanding of probability including algebraic calculations with probability and the role of probability in statistical inference
- To understand the basic concepts and methods of statistical inference
- 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

REQUIRED TEXTS

- Stephen Kokoska, *Introductory Statistics* (2011, 1st Edition)
- Alia Maw, *Excel Manual to Accompany Introductory Statistics* (2012, 1st Edition)

GRADING: Your course grade is based on 500 points, allocated as follows

Exam 1 (6th week)	100 points
Exam 2 (12th week)	100 points
Final Exam (Thursday, December 12, Noon – 1:50 pm)	150 points
Textbook Homework	50 points
Microsoft Excel Homework	50 points
Recitation Quizzes	50 points
<hr/> Total	<hr/> 500 points

- With a total of 500 points possible, the cut points for the various letter grades will be no higher than:

Letter Grade	A	A-	B+	B	B-	C+	C	D
Number of Points	465	450	435	415	400	385	350	300

- There is no other extra credit except for what is mentioned in this syllabus.
- A grade of incomplete (I) will only be considered for students who are passing the course but cannot complete the course due to serious reasons of health, family, etc.

EXAMS

- Exams 1 and 2 will be given during regular class time. The tentative dates and coverage are given on the course calendar.
- Exams 1 and 2 will have a multiple choice format and will have 21 questions, worth 5 points each. As a result, each midterm exam will have 5 points of possible extra credit.
- All exams will be closed-book. A formula sheet and all necessary tables will be provided at the exams. You may also use a hand-held calculator at the exams.
- It is your responsibility to bring an NIU picture ID, a pencil, an eraser, and a calculator for the exams. Sharing of any of these items is not allowed.
- It is important to be on time for the exams. If you arrive late and one or more students have already submitted their exams and left the room, then you may be denied the opportunity to take the exam. In such cases, the possibility of a make-up exam will be at your instructor's discretion.
- On exam days you are required to turn in the test questions, formula sheet & tables, and your Scantron form. Failing to turn in any of these items will be considered as academic dishonesty.
- 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 Thursday, December 12, Noon – 1:50 pm. 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 comprehensive with a multiple choice format containing 40 questions worth 4 points each. As a result, the final exam will have 10 points of possible extra credit.

TEXTBOOK HOMEWORK

- Homework from each chapter shown on the course calendar will be collected either in lecture or in recitation according to the preference of your instructor. The due dates shown on the course calendar are tentative – exact dates will be announced in lecture and/or on the Blackboard page for your section. It is the responsibility of the student to keep track of when assignments are due. The homework should be placed on the head table before the lecture begins. Your lowest three textbook homework scores will be dropped. **NO LATE TEXTBOOK HOMEWORK WILL BE ACCEPTED.**
- Assignments are to be neat and presented logically on loose-leaf paper. Paper from spiral notebooks is unacceptable. If more than one sheet of paper is used, the pages must be stapled together. You are to show all your work. If an assignment is messy, disorganized or does not follow the previously stated instructions, it will be returned and you will not receive credit for that assignment.
- A selection of problems will be graded from each assignment. The grade earned on the selected problems will be your grade for that assignment.
- Since 50 points of your course total are for homework, your average on your best ten assignments will be scaled down to produce your homework grade. For example, if you average $80/100$ points = 0.80, then you will receive $0.80 \times 50 = 40$ points toward your course total.
- 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 homework before turning it in.

MICROSOFT EXCEL HOMEWORK

- Nine homework assignments from the Excel manual will be assigned, worth 10 points each. The assignments must be done using Microsoft Excel. Since 50 points of your course total are for Excel homework, your total on all nine assignments will be scaled down to produce your homework grade. For example, if you earn $72/90$ points = 0.80, then you will receive $0.80 \times 50 = 40$ points toward your course total.
- The due dates shown on the course calendar are tentative – exact dates will be announced in lecture and/or on the Blackboard page for your section. **NO LATE EXCEL HOMEWORK WILL BE ACCEPTED.**
- Excel is available on many campus computers. During the first recitation your TA will take you to a computer lab to help you get started and complete Excel Homework #0. This assignment should be turned in as your grade on this assignment can be used to replace a lower grade from any of the remaining Excel assignments.

- The Excel manual that comes bundled with your textbook shows you how to solve problems using Excel, and also uses a special plug-in provided by the publisher to make some calculations easier. All of the assignments can be completed without the special plug-in software. If you wish to use the plug-in software you may, but be aware that the Excel installations on campus may or may not have the special software available.
- When completing the Excel homework, solve one problem per worksheet. Each worksheet should (1) clearly indicate which problem and parts are being solved and (2) contain all relevant calculations and be clearly labeled. Along with each sheet turn in a duplicate sheet that contains the formulas used in your worksheet. You will be shown how to print this during the first week of recitation. The sheet that you produce for Excel Homework #0 should give some indication as to how the homework should be formatted. If the questions ask for plots or graphs, these can be included on the worksheet you print or on another page.

RECITATION QUIZZES

- Seven quizzes will be given in recitation. The two lowest quiz grades will be dropped.
- The quiz topics will be announced in lecture and/or on the Blackboard page for your section. The tentative quiz dates are shown on the course calendar.
- Because the lowest two quiz scores are dropped, **NO MAKEUP QUIZZES WILL BE GIVEN.**

MISCELLANEOUS

- A packet of useful formulas and tables will be provided for you to use on your homework, quizzes, and exams. You can download a copy of this packet from the Blackboard page for your section. (This packet differs slightly from the formula card that is included with your textbook.) It is your responsibility to bring the packet with you to all recitations for use with the quizzes. A packet will be provided for you for all exams.
- You may use a calculator during all quizzes and exams. Sharing of calculators is not allowed. You are expected to do all calculations by hand if you do not have a calculator. A calculator that can add, subtract, multiply, divide, and find square roots is sufficient. A graphing calculator is not required. Calculators that can store text, as well as calculators in cell-phones, iPods, PDAs, and laptops are prohibited.
- To minimize the possibility of papers being misdirected, please write your complete name and section on everything you turn in. Points may be deducted from your homework grades if you repeatedly submit assignments with a missing or incorrect section.
- You are encouraged to ask questions and to participate in class discussions; however, talking in class while the instructor is lecturing is not acceptable.
- Cell phones are to be muted or turned off during lectures, recitations, and visits to office hours and kept away during exams and quizzes. In particular, texting during class is prohibited. Violations will be considered as class disruptions 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. Missing an announcement will not be accepted as a valid excuse for missing a test or quiz.
- If you need assistance with the course material please feel free to contact your instructor and/or your teaching assistant. Help is also available in the Statistics Assistance Center (DuSable 326). Please see the Blackboard page for your section or DuSable 326 for the schedule of when help is available for STAT 301.
- NIU's updated Academic Integrity and Attendance policies & Accessibility statement are now available at http://www.niu.edu/stat/courses/pdfs/Accessibility_Statement.pdf
- 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/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.
- The syllabus may be changed at any time. Changes will be announced in lecture.

TENTATIVE SCHEDULE

Week	Sections	Homework Due		
		Quiz	Textbook	Excel
August 26	1.1 - 1.3, 2.1 - 2.2, 2.4			
September 2 (NIU closed Sep. 2 – Labor Day)	3.1 – 3.3		1	0, 1
September 9	4.1 – 4.2	1	2	2
September 16	4.4 – 4.5		3	
September 23	5.1 – 5.4	2	4	
September 30	6.1 – 6.2, Exam 1 (Sections 1.1 – 5.4)		5	3
October 7	7.1 – 7.2	3	6	4
October 14	8.1 – 8.4		7	5
October 21	8.4 – 9.3	4	8	
October 28	9.3 – 9.4		9	6
November 4	9.4 – 9.6	5	10	7
November 11	10.1 – 10.3, Exam 2 (Sections 6.1 – 9.6)		11	
November 18	10.4	6	12	
November 25 (No classes Nov. 27 – Dec. 1 - Break)	11.1, 12.1		13	8
December 2		7		9
Final Exam: Thursday, December 12, Noon – 1:50 pm, Room TBA				

TEXTBOOK HOMEWORK ASSIGNMENTS

Assignment Number	Problems
1	Ch 1: 2, 4, 12, 16, 26 / Ch 2: 2, 10, 12, 30, 56, 58, 68
2	Ch 3: 6, 20, 22, 26, 40, 42, 46, 60, 61, 66, 68, 70
3	Ch 4: 5, 6, 24, 30, 34, 36, 42, 50, 52
4	Ch 4: 91, 93, 100, 102, 110, 116, 118, 124
5	Ch 5: 2, 5, 6, 9, 12, 18, 27, 30, 36, 48, 52, 62
6	Ch 6: 19, 23, 24, 27, 28, 31, 32, 34, 86, 91
7	Ch 7: 1, 6, 19, 20, 23, 24, 27, 31
8	Ch 8: 2, 6, 12, 14, 16, 18, 22, 40(a,b,c,d,f), 42, 46, 56
9	Ch 8: 66, 68, 69, 72, 74, 78 / Ch 9: 4, 6, 8, 14, 16, 24, 27, 34, 35
10	Ch 9: 46, 47, 57, 63
11	Ch 9: 82(a,d,f), 83(a,d,f), 84(a,d,f), 86(a,c,f), 91, 96, 101(a,bi,iii), 102(a,bi,ii), 105, 118, 139(a,c,e), 141(a,c,e), 148, 151
12	Ch 10: 2, 8, 9, 26, 34, 55, 58
13	Ch 10: 73(a,b,c), 76(a,b,c), 79, 80, 81
14	Ch 11: 5, 7, 10 / Ch 12: 5, 8(a,b), 9(a,b), 13, 14

EXCEL HOMEWORK ASSIGNMENTS

Assignment Number	Problems
0	Covered in first recitation
1	Ch 2: 2.17, 2.53
2	Ch 3: 3.11, 3.37
3	Ch 5: 5.33(a,b), 5.53(a,b), 5.57(a,b,c)
4	Ch 6: 6.31, 6.37
5	Ch 7: 7.27(a,b)
6	Ch 8: 8.25
7	Ch 9: 9.59, 9.89, 9.115
8	Ch 10: 10.9, 10.35, 10.67
9	Ch 11: 11.7