STP 226: Elements of Statistics

Instructor reserves the right to alter the information below at any time.
These changes can be announced in class only, or on his/hers web page, or blackboard.

Instructor: Ela Jackiewicz	**Office: ECA211**
Email: : ela@asu.edu (best way to contact me)	**Office Hours:** MWF 12:00-1:00 pm and by appointment
Telephone: 480-965-9892 (do not leave messages)	**Instructor Web Page:** http://math.la.asu.edu/~elajack

Topic Calendar

Wk	Dates	Topics covered, Tests and Breaks dates
1	Aug. 17-18	Introductions, **1.1:** Statistics Basics
2	Aug. 21-25	**1.2:** Simple Random Sampling **2.1:** Variables and Data **2.2-2.3:** Organizing Data **2.4:** Distribution Shapes
3	Aug. 28-Sept.1	**3.1:** Measures of Center **3.2:** Measures of variation **3.3:** The Five-Number summary: Boxplots
4	Sept. 4-8	**Monday, Sept.4 Labor Day, no classes 3.4:** Descriptive Measures for Population; Use of samples **5.1:** Probability Basics **5.2:** Events
5	Sept. 11-15	**5.3:** Some Rules of Probability **6.1:** Introducing Normally Distributed Variables, **6.2:** Areas under the Standard Normal Curve
6	Sept. 18-22	**6.3:** Working with Normally Distributed Variables **Review**
7	Sept. 25-29	**TEST #1 Monday, Sept. 25 in class (chapters 1-3,5-6)** **7.1-7.3:** The Sampling Distribution of the Sample Mean
8	Oct. 2-6	**8.1:** Estimating a Population Mean **8.2:** Confidence Interval for One Population Mean When σ is Known **8.3:** Margin of Error **8.4:** Confidence Interval for One Population Mean When σ is Unknown
9	Oct. 9-13	**Mo-Tues. Oct 9-10, FALL BREAK, no classes 9.1:** The Nature of Hypothesis Testing, **9.2:** Critical-Value Approach to Hypothesis Testing
10	Oct. 16-20	**9.3:** P-Value Approach to Hypothesis Testing **9.4:** Hypothesis Tests for One Population Mean When σ is Known
11	Oct. 23-27	**9.5:** Hypothesis Tests for One Population Mean When σ is Unknown **Review**
12	Oct. 30-Nov.3	**TEST #2 Monday, Oct. 30, in class (chapters 7-9)** **10.3:** Inferences for Two Populations Means, Using Independent Samples; Different Standard Deviations
13	Nov.6-10	**11.1:** Confidence Interval for One Population Proportion, **11.2:** Hypothesis Test for One Population Proportion **Friday, Nov.10 Veterans Day, no classes**
14	Nov. 13-17	**12.1:** The Chi-Square Distribution, **12.2:** Chi-Square Goodness-of-Fit Test, **12.4:** Chi-Square Independence Test
15	Nov. 20-24	**4.4:** Linear Correlation, **4.2:** The Least Squares Regression Equation **Thursday-Friday, Nov.23-24 Thanksgiving, no classes**
16	Nov. 27-Dec. 1	**4.3:** The Coefficient of Determination **Review for Finals**

Text: *Elementary Statistics, by Neil Weiss, 9th Edition*

Attendance: Attendance is **mandatory, missing any classes is strongly discouraged**. There will be no make-ups for any quizzes and/or a group work administered during class time. **Chronic absences will likely result in a failing grade for the course** (E).

Homework: Homework problems are ONLINE. We will use **MyStatLab** for our homework assignments. **You will need to purchase a MyStatLab access code to use online version of the book and complete your assignments.** You may also decide to buy a hard copy of the book that comes with an access code, additional cost is minimal. Make sure to select the correct course. Some written homework may also be collected. <u>**NO LATE HOMEWORK WILL BE ACCEPTED.**</u>

Campus Network or MyStatLab Outage: Homework ue dates are set by your instructor. As such it is your responsibility to complete the assigned homework in the allocated time ahead of the dead line as the server could be down for an unknown period of time!!!

QUIZZES: Weekly quizzes will be given, some of them as take-home assignments. Often you will be able to work in groups, but each individual student must submit his or her own work. **There will not be any make-up quizzes available.**

Important Notes about submitted work:
On all of your written assignments you must show all work for the problems to receive full credit, even if the final answer is correct. Do not submit just the final answer not supported by any work. Your handwriting must be legible, your name and class time must be clearly written at the top of the front page, and your final answers must be boxed or circled. Proper notation is mandated. Multiple pages must be stapled.

Midterm Exams: You will take 2 mid-term exams during the semester. Exams are given in class, time will be limited to class time. Each will involve a mix of mechanical skills and conceptual reasoning. The best possible preparation for them is regular attendance and completion of assigned homework & quizzes. You may have 1 page 8x11 of hand written notes (1 side only) on each exam, including a final exam, no specific problems solved may be included. Make-up exams are only given in case of documented emergencies. **The instructor is not required to provide make-up exams.**

Final Exam: The final exam for this course is NOT comprehensive , it will cover material from chapters 10-12 and 4 and will be administered in the regular classroom on the date posted in the official ASU Final Exam Schedule (http://students.asu.edu/final-exam-schedule) .

Studying and Preparation Time: The course requires you to spend time preparing and completing assignments. A three-credit course requires at least 135 hours of student work. Therefore expect to spend approximately a minimum of 9 hours a week preparing for and actively participating in this course

GRADING: 25% Homework
        15% Quizzes
        40% 2 tests
        20% Final Exam

GRADING SCALE:
A-, A, A+: 90-92.9, 93-96.9, 97-100% ;
B-, B, B+: 80-82.9, 83-86.9, 87-89.9% ;
C, C+: 70-75.9, 76-79.9%;
D 60%–69.9%;
E: 59.9% or less

Calculator: A graphing calculator is required for this course. The calculator must have a statistical package that includes tests of hypotheses, confidence intervals and linear regression and be able to perform matrix operations. If you already have a graphing calculator, you may use it. Examples of highly recommended models are the TI-$n$spire & TI 83/84 or Casio 9850GB Plus. This is the only form of electronic device that you will be allowed to use in the classroom.

Extra credit: If you come to class and do the homework, your grade will take care of itself. No individual requests for extra credit projects will be considered.

Agreement of Terms: By remaining registered in the course through drop/add period, you agree to all terms and policies set forth in the syllabus.

Tutoring help: The Math Tutor Center is located in PSA-116. You must have a valid ASU "Sun Card" in order to be admitted. For information visit http://math.asu.edu/mathtutors
The Learning Resource Center has several locations on campus and specializes in small group tutoring sessions. For information, visit http://studentsuccess.asu.edu.

COURSE CONCEPTS:
Random Sampling
Design of experiments
Frequency Distributions
Graphical data Display
Descriptive Measures of Center and Spread
Probability Rules
Normal Distributions
Random Variables
Principles of Statistical Design
Sampling Distributions of Means
Confidence Intervals and Hypotheses tests for Means and Proportions
Two Population Hypothesis tests and Confidence Intervals for Means
Chi-square tests for Categorical Data – Goodness of Fit test and Test of Association
Least Squares Regression and Correlation

Final Grades:
A: Outstanding. Superior. Written work is neat, organized, and demonstrates a mastery of the subject matter for the college level. Meets all course expectations promptly. Shows a clear grasp of concepts and demonstrates the ability to synthesize the material in application settings. Participates regularly and enthusiastically in the classroom.
B: Very good. Clearly above average. Written work is complete with only minor flaws and demonstrates proficiency in the subject matter for the college level. Shows an adequate grasp of concepts and demonstrates the ability to relate the material in application settings. Participates regularly and enthusiastically in the classroom.
C: Good. Average. Directions followed. Student met minimal expectations for the course. Written work contains minor flaws too numerous to be overlooked. Student shows a reasonable grasp of the subject matter for the college level, but may have difficulty processing the material from class to an application setting. Participates in the classroom.
D: Below expectations. Below that which one would normally expect from a student at this level of a college career. Written work is marred by major mechanical problems. Exam performance fails to demonstrate a reasonable grasp of material for the college level. Student fails to participate appropriately in class.
E: Unacceptable. Written work consistently falls below college level. Student fails to use appropriate college resources when directed to do so by the instructor. Shows little or no grasp of concepts and is unable to process or relate material in application settings. Student fails to participate appropriately in class. Student is consistently late in meeting course expectations.

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Departmental and University Policies and Procedures

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Course withdrawal deadline (with a W)	Wednesday, Nov. 1
Complete withdrawal (In person)	Friday, Dec. 1

The grade of XE: A grade of XE is reserved for "failure for academic dishonesty." The grade goes on the student's transcript; the student needs to petition to have it removed after 1 year.

The grade of Incomplete: A grade of incomplete will be awarded only in the event that a documented emergency or illness prevents the student who is doing acceptable work from completing a small percentage of the course requirements. The guidelines in the current general ASU catalog regarding a grade of incomplete will be strictly followed. f there is a last-minute personal or medical emergency, the student may receive a grade of Incomplete and make up the final within one calendar year. The student must provide written documentation and be passing the class at the time to receive an Incomplete.

Instructor-Initiated Drop: At the instructor's discretion, any student who has not attended class during the first week of classes may be administratively dropped from the course. However, students should be aware that non-attendance would NOT automatically result in being dropped from the course. Thus, a student should not assume they are no longer registered for a course simply because they did not attend class during the first week. It is the student's responsibility to be aware of their registration status.

Final Exam Make-up Policy: The final exam schedule listed in the Schedule of Classes (http://students.asu.edu/final-exam-schedule) will be strictly followed. Except to resolve those situations described below, no changes may be made in this schedule without prior approval of the Dean of the college in which the course is offered. Under this schedule, if a conflict occurs, or a student has **more than three exams on one day**, the instructors may be consulted about an individual schedule adjustment. If necessary, the matter may be pursued further with the appropriate dean(s). This procedure applies to conflicts among any combination of Downtown Phoenix campus, Tempe campus, Polytechnic campus, West campus, and/or off campus class.

Make-up exams will NOT be given for reasons of a non-refundable airline tickets, vacation plans, work schedules, weddings, family reunions, and other such activities. Students should consult the final exam schedule before making end-of-semester travel plans. *The Dean of the student's college must approve any exceptions to these rules.*

STUDENT CONDUCT STATEMENT:
Students are required to adhere to the behavior standards listed in Arizona Board of Regents Policy Manual Chapter V – Campus and Student Affairs: Code of Conduct **(http://www.abor.asu.edu/1_the_regents/policymanual/chap5/5Section_C.pdf),** ACD 125: Computer, Internet, and Electronic Communications (http://www.asu.edu/aad/manuals/acd/acd125.html), and the ASU Student Academic Integrity Policy (http://www.asu.edu/studentaffairs/studentlife/srr/index.htm).
Students are entitled to receive instruction free from interference by other members of the class. If a student is disruptive, an instructor may ask the student to stop the disruptive behavior and warn the student that such disruptive behavior can result in withdrawal from the course. An instructor may withdraw a student from a course when the student's behavior disrupts the educational process under USI 201-10 http://www.asu.edu/aad/manuals/usi/usi201-10.html.

PROCTORING DURING EXAMS:

Students in face-to-face or online courses taking exams and quizzes at Arizona State University should expect to be proctored. The process includes verifying the identity of the student and providing either live proctors or other forms of proctoring during the exam or quiz. In the case of face-to-face courses, students can be required to show a valid identification card, and expect to be monitored by proctors while taking either an exam or quiz.

Proctoring of online students requires presenting a valid identification card as part of the verification process and monitoring by online proctoring software. ASU contracts with three online proctoring software companies. Each company has been carefully reviewed for software security and the protection of student data and must meet the standards of the ASU Internet Security Office. In addition, any company employee, including proctors, who would have access to student data must have a background check and be finger printed. Students can take exams in any location that has a reliable Internet connection. It is best to select a quiet location where the student can be alone in a room.

Academic Dishonesty
Academic honesty is expected of all students in all examinations, papers, laboratory work, academic transactions and records. The possible sanctions include, but are not limited to, appropriate grade penalties, course failure (indicated on the transcript as a grade of E), course failure due to academic dishonesty (indicated on the transcript as a grade of XE), loss of registration privileges, disqualification and dismissal. For more information, see http://provost.asu.edu/academicintegrity.

Students with Disabilities
Disability Accommodations: Qualified students with disabilities who will require disability accommodations in this class are encouraged to make their requests to me at the beginning of the semester either during office hours or by appointment. Note: Prior to receiving disability accommodations, verification of eligibility from the Disability Resource Center (DRC) is required. Disability information is confidential.

Establishing Eligibility for Disability Accommodations
Students who feel they will need disability accommodations in this class but have not registered with the Disability Resource Center (DRC) should contact DRC immediately. Their office is located on the first floor of the Matthews Center Building. DRC staff can also be reached at: 480-965-1234 (V), 480-965-9000 (TTY). For additional information, visit: www.asu.edu/studentaffairs/ed/drc. Their hours are 8:00 AM to 5:00 PM, Monday through Friday.

Policy on Threatening Behavior

All incidents and allegations of violent or threatening conduct by an ASU student (whether on-or off campus) must be reported to the ASU Police Department (ASU PD) and the Office of the Dean of Students. If either office determines that the behavior poses or has posed a serious threat to personal safety or to the welfare of the campus, the student will not be permitted to return to campus or reside in any ASU residence hall until an appropriate threat assessment has been completed and, if necessary, conditions for return are imposed. ASU PD, the Office of the Dean of Students, and other appropriate offices will coordinate the assessment in light of the relevant circumstances.

Classroom behavior: Make sure you arrive on time for class

 Excessive tardiness will be subject to sanctions. **Under no circumstances should you allow your cell phone to ring during class.** Any disruptive behavior, which includes ringing cell phones, listening to your mp3/iPod player, text messaging, constant talking, eating food noisily, reading a newspaper will not be tolerated. The use of laptops (unless for lecture note taking), cell phones, MP3, IPOD, etc are strictly prohibited during class. Students who engage in disruptive classroom behavior may be subject to various sanctions. The procedures for initiating a disruptive behavior withdrawal can be found at https://clas.asu.edu/resources/disruptive-behavior

Absences related to religious observances/practices: If you will be absent from class due to a religious observance or practice, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.

Absences related to university sanctioned events and activities: If you will be absent from class due to participation in a university sanctioned event/activity, it is your responsibility to inform the instructor during the first week of class. Your instructor will work with you on alternative and reasonable arrangements for any time missed.