STA 261 - Statistics - Spring 2014

Instructor Information:
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Textbook
Introductory Statistics, Ninth Edition by Weiss; packaged with MyStatLab and StatCrunch

Required Technology
StatCrunch will be used through MyStatLab. Additionally, a TI 83/84 graphing calculator may be handy in the classroom setting. Other graphing and advanced calculators may be used, but the textbook provides instructions for the TI 83/84 only. You will need to become comfortable with StatCrunch or the calculator to succeed in this course. Laptops and cell phones may be used for classwork **ONLY**.

Course Overview
This course is designed as an introductory statistics course for students without a calculus background. It satisfies the 'formal reasoning' requirement as a Miami Plan Foundation Course. This course will not count towards a mathematics and/or statistics major requirement (although it does count for math education) nor will it meet the Business School statistics requirement.

You will learn how statistics applies to your everyday life through current events and real examples from various disciplines. The course introduces the ideas of statistical reasoning, which can be quite different than mathematical logic. It is not uncommon for students who do well in math to struggle in statistics. Likewise, it is not uncommon for less mathematically inclined students to excel in statistics. Keep an open mind and work hard.

Course Objectives
- Differentiate between descriptive and inferential statistics
- Read and create graphical displays of data
- Calculate measures of center and measures of variation
- Use rules of probability to determine the likelihood of events
- Identify, as well as sketch, the basic properties of the normal curve, determine areas under the standard normal curve and find probabilities for any normally distributed variable
- Calculate and interpret confidence intervals
- Identify Type I and Type II errors and their consequences
- Perform and interpret the results of various hypothesis tests including: one-population mean

t-test, two-population mean t-test, paired t-test, one proportion z-test, two-proportion z-test, regression t-test, chi-square goodness-of-fit test, chi-square test of independence, chi-square homogeneity test and the basics of Analysis of Variance (ANOVA).
- Obtain and graph the regression equation for a set of bivariate data, interpret the slope of the regression line, and use the regression equation to make predictions
- Read, interpret and understand statistical results in articles and research studies

Course Prerequisites
- Students need to be able to navigate the Niihka site to access course information.
- Students need to be able to navigate the MyStatLab website to be able to complete and submit online homeworks and quizzes.
- Students need to be able to create and save files as Word documents.
- Students need to be able to send and receive email. Check it regularly!

For help with MyStatLab, see:
http://media.pearsonmg.com/cmg/pmmg/player_tour/v2_player/howtoenteranswersv2.html

Course Design
This course will be comprised of a face-to-face component and an online component. Students will complete homeworks and quizzes online through the MyStatLab website that comes with your textbook. On Monday and Wednesday we will meet in class for lectures regarding new material. The Tuesday and Thursday *lab* sessions will involve working activities to get a better grasp of the lecture materials. I am going to try my best to keep Fridays reserved for optional review sessions, but we will have lecture if necessary, at my discretion.

Homework
Online homework assignments, roughly one for each chapter we will cover, will be posted and completed on MyStatLab. You will be able to retry each equation as many times as necessary in order to complete it correctly. If you complete a questions incorrectly, all you need to do is click the *Try again* button at the bottom of the problem.

There are various support buttons to assist you in completing the problems. For example, should you need to contact me regarding a specific homework question, you can click Ask My Instructor. A box will open in which you can type your question and the website will email me with your question and a link to the problem you were working.

I will record your highest score as the grade for a particular homework assignment. Assignments will be due at 11:59pm (Eastern) of the due date to submit your work; however I suggest you not wait until the last minute to submit your work in case the Pearson site is temporarily unavailable or you experience computer problems. *Computer problems are **NOT** an excuse for incomplete assignments!*

Textbook homework problems, similar to those that may appear on an exam, will be provided for

extra practice but will not be collected or graded. Solutions to odd-numbered problems are in the back of the book and I will post solutions to recommended even-numbered problems.

Lab Activities

On Tuesdays and Thursdays, we will engage in more 'hands-on' activities designed to develop your understanding of statistical concepts and to provide you with an opportunity to actually do statistics! The labs will be run by a Teaching Assistant and I will help out periodically as well. At minimum, 5 lab activities will be graded and counted towards your final grade in the course.

Projects

Three projects will be given in the course. The first will be on basic Descriptive Statistical Analysis and will be a solo effort. In the latter assignments you will work in small groups to perform a hypothesis testing project and regression project. Details of the projects will be assigned at a later data.

I would expect projects to be submitted via email in pdf format! You can do the assignment in Word but please save to pdf before submitting as formatting can change. Please save the filename in the following format: Lastname.Firstname.Section.AssignmentTitle.Data.pdf. There are roughly 80-students in the two sections of this course, if you fail to abide by these criteria your project may not be graded!

Quizzes and Exams

Quizzes will be adminstered online through MyStatLab. I expect roughly one quiz for every 2-chapters, but there may be more. Unlike the homework, you will not have unlimited times to attempt a problem. Furthermore, once an online quiz opens, you will have 48-hours to complete it. Once you start the quiz, you must finish it in a single session.

Three in-class exams will be given during the face-to-face meetings on Thursday afternoons at select dates; tentatively February 20, March 20 and April 24.

The final exam will be given on Thursday, May 15th, 2014 from 5:30pm to 7:30pm according to University Policy:

> *An individual student's final examination may not otherwise be rescheduled except in extraordinary circumstances beyond the student's control, in which case an attempt should be made to reschedule the examination at a later time rather than an earlier time if possible. Rescheduling an examination in such cases to a later time requires the consent of the instructor; advancing to an earlier time requires the consent of the instructor, the department chair/program director, and the dean of the academic division in which the course is given.*

Attendance

Although not explicitly included in your final grade, research has shown a strong correlation between class attendance and successful course completion. As per the University policy:

There are no University-recognized excused absences except for religious observances that require absence from a class session and other required class activities. Students must give written notification to their instructor within the first two weeks of class of the religious event that prohibits class attendance and the date that will be missed, if officially known. Instructors will, without prejudice, provide such students with reasonable accommodations for completing missed work. However, students are ultimately responsible for material covered in class, regardless of whether the student is absent or present. If a student is involved in activities that result in class absence (such as intercollegiate athletics, band, debate, other class activities, etc.), it is the student's responsibility to negotiate specific arrangements with individual instructors about any absences.

Communication Guidelines

Contracting me: Email is the most convenient way to contact me. However, if you feel the situation requires a conversation, you can speak with me during my office hours or schedule an appointment. Given today's ease of communication, it is your responsibility to contact me within 24-hours if you are having any trouble. While I attempt to answer emails quickly, it may take up to 24-hours to respond, particularly over the weekend.

Communication Guidelines: Email is the official mode of communication for the University. You are responsible for any communication that is sent to your Miami email account so please check it frequently.

Expectations

Student expectations:

- Check the niihka site at least three times a week
- Check your Miami email every 24-hours (or more often)
- Actively participate in lab activities and group projects
- Submit assignments, at the very least, by their due date & time
- Complete all readings, homeworks and quizzes through the MyStatLab. Feel free to watch the videos and other resources available.
- Spend at least 8--12 hours a week studying and completing assignments for this class
- Keep an open mind regarding the material
- Notify the instructor, in a timely manner, if you have any problems

Instructor expectations:

- Check the niihka site and Pearson site every day to monitor progress
- Check email at least twice a day during the workweek and once per day over the weekend
- Responds to all emails within 24-hours
- Return all phonecalls within 24-hours (weekend-excluded)
- Post grades within 5-days of assignment due date
- Make every effort to meet with students that request a meeting

Grading

Source	**Percentage**
Online Homework	10%
Online Quizzes	10%
Projects	15%
Lab Work	15%
Three Test	30% (10% each)
Final Exam	20%
Total	**100%**

Academic Integrity

According to the Student Handbook, “Academic dishonesty is defined as any activity that compromises the academic integrity of the institution or subverts the educational process.” All Miami University policies concerning academic integrity apply to this course.

ADA & Students with Disabilities

As per the University policy, “Under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973, some “otherwise qualified” individuals with disabilities are protected from discrimination and assured equal access to educational programs.” Please see the University Handbook for further details.