

MATH/STAT 3379: section 18, ONLINE, Spring 2017
STATISTICAL METHODS IN PRACTICE, Distance Learning

Instructor:

Dr. Ferry Butar Butar, Lee Drain Building 439C, Phone 294-1596.

Email: butar@shsu.edu

Homepage: http://www.shsu.edu/~mth_fbb

Instructional Methodology

This course is taught as an Internet-based distance learning class.

IS the ONLINE class right for you?

Consider the following statements:

1. I usually complete homework and assignments **on time**.
2. In doing homework **I can usually do it with little or no help**.
3. I can easily follow the textbooks.
4. I am a self-motivated learner when it comes to studying.
5. It is not important to me to meet with my instructor.
6. I classify myself as a highly independent learner.

If you agree with the statements above, you are probably suited to Online class.

OFFICE HOUR: LDB 439C

Tuesday and Thursday: 11:00 a.m - 12:00 p.m. and 1:00 - 2:00 P.M. or by appointment.

REQUIRED MATERIALS:

Textbook: Understandable Statistics with book, Cengage, 11th edition by Brade and Brase. ISBN: 9781337349109.

Only Access code: ISBN: 9781305877030

Calculator: TI-83/plus or TI 84 plus.

COURSE DESCRIPTION:

This course introduces the fundamentals of statistical concepts and will guide the student through basic statistical procedures to permit critical insight into the science of collecting, classifying, presenting, and interpreting information from the data. The three primary topics covered are 1) descriptive statistics (geographic presentation of data, histograms, plots, charts, measures of central tendency, dispersion, position, bivariate data analysis, linear correlation and regression analysis), 2) probability concepts and rules for calculating probabilities of compound events. The probability coverage also includes the more commonly occurring probability distributions such as the binomial and normal distributions. Finally, the third area of coverage is that of inferential statistics, including inferences involving one and two populations.

COURSE OUTLINE:

I will cover all of the sections in Chapters 1 through 9.

LEARNING OBJECTIVES:

1. Know how to differentiate of population versus sample, random variables, type of data, techniques of descriptive statistics including frequency distributions, histograms, stem and leaf plots, boxplots, and scatterplots.
2. Calculate and interpret measures of central tendency and dispersion, including mean, median, standard deviation, percentiles and quartiles.
3. Apply the rule 68-95-99.7 to bell-shaped distributions and use the normal tables to answer questions about the proportion of scores in a certain range or find various percentiles.
4. Analyze relationships between two quantitative variables using correlation and linear regression.
5. Use the basic ideas of probability and apply them to statistics.
6. Know how to calculate the mean and standard deviation of discrete probability distribution, binomial, and normal distribution.

7. Apply ideas of appropriate sampling distribution using central limit theorem.
8. Use the sampling distributions of sample proportions and sample means to answer appropriate questions.
9. Estimate single means, difference of two means, single proportions and difference of two proportions using confidence intervals. Interpret the results.
10. Demonstrate skills in hypothesis testing for means and proportions, for single populations and comparison of two populations.
11. Know how to find sample size when you try to conduct a survey both for mean and proportion.

You will use a TI83 or 84/plus to do most of the calculations.

EXPECT FROM THIS COURSE:

Upon successful completion of this course, students will be able to:

1. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
2. Recognize, examine, and interpret the basic principles of describing and presenting data.
3. Compute and interpret empirical and theoretical probabilities.
4. Explain the role of probability in statistics.
5. Solve linear regression and correlation problems.
6. Examine, analyze, and compare various sampling distributions for both discrete and continuous random variables.
7. Describe and compute confidence intervals.
8. Perform hypothesis testing using statistical methods.

STUDENT PARTICIPATION:

To be successful in this Distance Learning course, you need to spend and work in and out of class about 15-20 hours per week. To be most effective, this should be spread over at least three different days each week.

1. Time requirement per two days in this Distance Learning Course:
 - a. 1-2 hours. Carefully compare your quiz work for the previous days to the solution keys to find any areas that you did not fully master.
 - b. 3 hours: Work through the instructor prepared lessons.
 - c. 3-4 hours: Work on problems on the textbook. (It is probably a good idea to combine this with working through the instructor-provided lessons, spending 6-7 hours on the combination of these.)
2. Every week (Saturday) you will have quiz.

HOMEWORKS:

Every week you will be submitted homework through the blackboard due: **Sunday at 11:45 p.m.**

QUIZZESS: Quizzes will be taken or submitted via WebAssign. They are due every week on **Saturday at 11:45 pm**. It must be submitted on time for any credit.

EXAMS: For every exam, you can use a note 8.5 by 11 in. You must turn in those note with your test. For Exam 2 and Exam 3, you need to bring binomial, normal, and t tables.

1. Exam1: Chapter 1 to Chapter 4
2. Exam2: Chapter 4 to Chapter 6
3. Exam3: Chapter 7 to Chapter 9.
4. Final: Comprehensive Exam (similar to exam 1, 2, and 3)

IMPORTANT For EXAMS

All Exams are using remote proctoring service (take exam on your computer):

- Students enrolled in this course are expected to complete 4 number of proctored exam(s).

- Exam proctoring services at Sam Houston State University are provided by the DELTA Center, free of charge to SHSU distance education students, via Proctor-Free ®.
- If a proctoring service, beside ProctorFree, is utilized (such as ProctorU), it will be the students responsibility to schedule and pay for such service.

Technical Requirements for Utilizing ProctorFree ®

| | PC Users | Mac Users |
|--------------------|--|--|
| Operating System | Windows Vista, 7 or 8 (prefer 8.1 for windows 8) | OS X 10.8+ Snow Leopard, with a target of OS X 10.9 Mavericks. |
| Installation Space | 2GB Hard Drive, 1GB Ram | 2GB Hard Drive, 1GB Ram |
| JAVA | JVM 1.7 or higher | Open JAVA 1.7 or higher |
| Hardware | Microphone, Keyboard, Mouse, Webcam | Microphone, Keyboard, Mouse, Webcam |
| Web Browser | Firefox 13+ Chrome 18+ Safari 6.x+ Internet Explorer 8+ | Firefox 13+ Chrome 18+ Safari 6.x+ Internet Explorer 8+ |
| Tech Support | Please call or email (855-759-6569) or support@proctorfree.com 24/7/365. Or, contact the SHSU Online Support Desk at 936-294-2780 or blackboard@shsu.edu. | |

GRADING POLICY:

| Item | Total point | Date |
|------------|-------------|--|
| Quiz | 100 | every Saturday |
| Homework | 100 | Every Sunday |
| Exam I | 100 | Friday, Feb 17, 2017, 9:00 A.M. - 11:45 P.M. |
| Exam II | 100 | Friday, March 31, 2017, 9:00 A.M - 11:45 P.M. |
| Exam III | 100 | Friday, April 28, 2017, 9:00 A.M. - 11:45 P.M. |
| Final Exam | 200 | Thursday, May 11, 2019, 9:00 A.M. - 11:45 P.M. |

Your final course will be determined by your cumulative score out of a maximum possible of 700. There is no set formula used to determine the letter grade for the course, but the following are some guidelines,

| Total point | Grade |
|-------------|-------|
| 630 – 700 | A |
| 560 – 629 | B |
| 490 – 559 | C |
| 420 – 489 | D |
| ≤ 419 | F |

ACADEMIC HONESTY:

I encourage you to work with other students, tutors, and all the material available to you on homework and all activities except quizzes and tests.

All work that is handed in for evaluation (quizzes and tests) is to reflect solely your individual performance. Cheating will not be tolerated. A violation will result a grade of F for the semester.

COMMUNICATION with ME:

If you need to email me you must use your SHSU email and the subject line must be **STAT3379.18**.

STUDENTS WITH DISABILITIES POLICY:

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired. SHSU adheres to all applicable

federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For a complete listing of the university policy, see: <http://www.shsu.edu/dept/academic-affairs/documents/aps/students/811006.pdf>