PSYC 2351
Spring 2020

Course Information: PSYC 2351.001 TuTh 8:00AM - 9:20AM
Classroom: HPR 262
Professor Information: Samantha Estrada Aguilera PhD

Office Hours: T 9:30-11:30 or by appointment BEP 254

Textbook Information:
Heiman, G. (2013). Basic statistics for the behavioral sciences. Cengage Learning. 7th Edition
ISBN-13: 978-1133956525
ISBN-10: 1133956521

A student at UT-Tyler is not under any obligation to purchase a textbook from a university-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Suggested Calculator: TI-84 Plus

- Other models such as TI-84, TI-83, TI-89 may have the statistical capabilities so you can always check with me if you have this type of calculator HOWEVER I am not an expert in all calculator mostly I am familiar with TI-84 Plus so it will be your responsibility to learn how to use your device.
- In general, a scientific calculator should work. But I will show you shortcuts in the TI-84 it is up to you if you want to use these shortcuts or not.

Course Catalog Description

An introduction to descriptive and inferential statistical methods used in psychological research. Emphasis will be on hypothesis testing with t-tests, analysis of variance, correlation, and selected nonparametric techniques.

Student Learning Outcomes & Assessments
Upon successful completion of the course, the student will be able to ...
1. **Demonstrate an understanding of the differences between and uses of descriptive and inferential statistics**. (BS/BA 6.0)
2. **Demonstrate an understanding of the differences between parametric and nonparametric statistics** (BS/BA 6.0)
    a. Define and distinguish between a population and a sample.
    b. Define and distinguish between statistics and parameters.
    c. Classify data with respect to the four levels of measurement.
3. **Compute statistical tests manually (with a calculator) and interpret and explain results.** (BS/BA 6.0)
    a. Compute and explain measures of central tendency and find the mean, median and mode of a sample and a population
    b. Compute and explain variability: range, variance and standard deviation
    c. Calculate and interpret standard z scores and information gained through normal distribution tables.
    d. Calculate and interpret correlation coefficients using the Pearson and the Spearman.
    e. Explain regression and predict y-values using regression the equation.
    f. Calculate and interpret standard error of the estimate and proportion of variance accounted for.
    g. Discuss hypothesis testing and how to state the null and alternative hypotheses
    h. Interpret the level of significance of a hypothesis test (p-values)

     i.   Identify type I and type II errors, and the probabilities associated with them.
    j.   Discuss the power of an analysis and the factors that affect it.
    k.   Perform one and two sampled t-tests, determine significance, and interpret the results.
    l.   Explain an F-test, calculate and interpret a one-way ANOVA
    m.   Calculate and interpret a two-way ANOVA
    n.   Calculate and interpret non-parametric tests such as the Mann-Whitney U, the Wilcoxon rank test, and Chi Squares.
    o.   Graph different types of data manually and describe the information contained in them.

4. **Be able to identify the independent and dependent variables of experiments, determine the design and the correct statistical analyses with which to test appropriate hypotheses. (BS/BA 6.0)**

Evaluation and Grading

Determined by the following:

Online Quizzes	10%
Projects	10%
Written Tests (x3)	50%
In class activities/Worksheets	15%
Final Exam	15%

Grading Scale

90 - 100% A
80 - 89% B
70 - 79% C
60 - 69% D
  0 - 59% F

Exams

Written Exams

- There will be **three** written tests given during the semester.
- Please plan on taking all written tests the day they are scheduled.
  - In case of an emergency you need to notify me immediately and make an arrangement.
- No notes, no books, no homework, and no cell phone may be used while taking tests unless special notice is given by the instructor.
- Formula sheet and statistical tables (if needed) will be provided.

Reviews
- Reviews for the exams are already posted in Canvas.
- You may print this review and bring it to the class review.

Comprehensive Final Exam

- The final exam will be comprehensive

Worksheets

- Worksheets will be part of the In class activities worth 15%. At the end of (most) chapter(s) we will have a worksheet or activity in order to practice the problems. This is a perfect time to ask questions on specific problems.

- You can use your notes, textbook and ask me or your TA for help during this assignment. These assignments will be worth 10 points each.
- There will be no make-ups, so please don't ask. You get to drop **one** worksheet (in case of absences etc).
- I will not announce these in-class worksheet activities, the activities will take place after we finish a chapter it is your responsibility to be in class when we complete these in-class activities.

Projects

Class Survey

In CANVAS you will find a class survey plan to complete this survey the first week of class. The data from this survey will be used for class examples. However, you are allowed to skip questions if you want to, but mostly the data will be used for class examples will be confidential (not tied to your name/identity). The completion of this survey will go into the Projects percentage of your grade.

       To submit: Take a picture with your phone, or a screenshot in your computer and submit it via the designated CANVAS submission slot.

Exam Wrapper

- The document for exam wrappers are posted on CANVAS.
- You will submit your exam wrapper via the Assignments section of CANVAS after you receive your test. This activity will count toward the Projects percentage of your grade.
- We will have two "midterm" exams so there will be two exam wrappers.
  - If you score below <60 in a test you must make an appointment with me and have submitted your exam wrapper so we can discuss your success in the course.

Readings

       These articles can be found in Canvas. You are responsible for coming to class having read these articles so that you can participate in the class activity. You are welcome to print the article. Dates can be found in the Tentative Schedule at the end of the syllabus.

- Vempati, R. P., & Telles, S. (2002). Yoga-based guided relaxation reduces sympathetic activity judged from baseline levels. Psychological reports, 90(2), 487-494.
- Bohannon, John. "Many psychology papers fail replication test." (2015): 910-911.

Evaluation of a Statistical Article

- You will summarize the methodological and statistical content from two studies. Each paper should be 1-2 pages in length, doubled space, with size 12 font. APA Style.
- Instructions, articles and submission will be through Canvas. Due dates can be found in the tentative schedule at the end of the syllabus.

- Messerli, F. H. (2012). Chocolate Consumption. Cognitive Function, and No
- Singh, P., & Ghuman, P. S. (2018). Prevalence of hypertension among female school children. International Journal of Yogic, Human Movement and Sports and Sciences, 3(1), 1111-1115.

Online Quizzes

Canvas Online quizzes will be assigned for every chapter. The quizzes will be available under the "Quizzes" section in Canvas. Roughly we should have a total of 12-13 quizzes, depending on how slow/fast the class moves.
- You will be allowed to take the quiz up to 3 times.
- The quizzes are not timed.
- A tentative schedule is available in this syllabus. If the schedule changes I will announce it class.
- No make-ups. You get to drop the lowest 2 quiz grades without it affecting your grade. No questions asked.
- If you have issues/questions with a quiz, your first point of contact should be the class TA.

Extra Credit Opportunities

There are three different Extra Credit Opportunities. The number of points awarded will be 5 points. You can only do **one of these three** opportunities. You may choose to do all of them, but I will only give you extra credit for one of them. There will be no other extra credit opportunities so please do not ask.

Extra Credit Option #1: Mentor Center Participation
Students who choose this extra credit option will be required to 1) complete a series of assessments measuring study skills and strategies, self-efficacy, academic emotion regulation, belongingness, and a number of other constructs that contribute to students' academic success in college; 2) complete an appraisal interview with a graduate student mentor; and 3) engage in three meaningful interactions with their mentor via in-person meet ups, phone conversations, text, or e-mail. Students must complete these requirements by April 24, 2019.
Please note – The College of Education and Psychology is dedicated to ensuring students receive ample academic support. For this reason, Psychology and Education undergraduate faculty are able to refer students they believe are struggling to the Academic Success Assistance Program (ASAP) through the Mentor Center for mandatory mentoring services. Should you be referred to the Mentor Center by one of your Professors, your participation will become mandatory. You will still receive extra credit in PSYC 2354 as long as you complete the mentoring requirements outlined above by April, 24, 2019.

Extra Credit Option #2: Complete the Statistical Study Evaluation.
- You will summarize the methodological and statistical content from **two** studies. Each paper should be 1-3 pages in length, doubled space, with size 12 font. APA Style.
- Instructions, articles and submission via Canvas.
  (1) Tejeda-Delgado, M. D. C. (2009). Teacher Efficacy, Tolerance, Gender, and Years of Experience and Special Education Referrals. International Journal of Special Education, 24(1), 112-119. Retrieved from https://files.eric.ed.gov/fulltext/EJ842124.pdf
  (2) Mizuno, J., & Monteiro, H. L. (2013). An assessment of a sequence of yoga exercises to patients with arterial hypertension. Journal of bodywork and movement therapies, 17(1), 35-41.
- **You need to complete BOTH to receive the extra credit**.
- Due April 16, 2019

Extra Credit Option #3: Counseling Clinic

You can participate in the Counseling Clinic. Students who chose this extra credit option need to participate in at least three counseling sessions. The need to let the staff know they want the extra credit for PSYC 2354. If your name does not appear on the end of the semester list, neither the TAs or me will make an inquiry on your behalf. A graduate student will make an announcement during the first week of class and you and you can give your contact information if you wish to take part in this activity.

Contact Me

Email *Net*iquette:

- I will respond to email Monday to Friday from 8-5 pm.
- Make sure your question isn't addressed in this syllabus.
- When you email me identify what course you are in. **State what section, day and time you are in**. I teach more than one statistics class, and more than one section every day.
- Address me as Dr. Estrada. Do not begin your email with "hey"
- Use your UTT email at all times. Do not email me from your private account (eg. coolguy23@gmail.com). If you email me from private email I will NOT respond.
- Do not email me inquiring about your final grade or to help you predict your final grade, <u>unless you believe there should be a correction</u>, the grades will be available in Canvas and you should know what you need to pass the course.
- You have a issues with the quizzes. **You should contact the TA for the class**.

When to contact the Teaching Assistant (TA):
- TAs change semester by semester, to find their information more accurately you can look in the homepage of our class Canvas.
- For question regarding worksheet grades you should contact the TA.
- Questions regarding tutoring or review sessions.
- Issues with the online quizzes (typos, grades, etc)

Attendance:
Attendance will be taken daily. Students are expected to assume responsibility for their learning by attending all class sessions, participating in class discussions and completing all assignments. Each student is encouraged to develop a professional work ethic in class that reflects responsibility, initiative and teamwork.

Academic Calendar
The University of Texas at Tyler **Academic Calendar** including: deadlines, important dates and more can be found here: https://www.uttyler.edu/schedule/files/academic-calendar-19-20.pdf

Recommended Review problems from Heiman textbook:

Chapter	Pages	Problem Number
2	p. 33	1, 2, 3, 5, 6, 8, 11-12
3	p. 59	1,2,13,15,17, 21, 23
4	p. 80-83	1, 7, 8, 13,
5	p. 105-107	1, 3, 4,5, 11,14,
6	p. 131	1, 3, 5, 10, 11, 13, 15
7	p. 158-159	3, 4, 6, 7, 12, 18, 19, 20, 21
8	p.181	1,3, 5, 15, 19
10	p. 234	3, 6, 7, 13, 15, 26,
11	p. 259-260	3, 5, 11, 12,13,
12	p. 288	3, 13,15, 16
13	p. 316-317	1, 3, 7, 13, 19
14	p. 347	1,7,17, 19
15	p. 369	5, 7, 9 (only part a), 11, 13, 15

Tentative Schedule	Topic **Note:** Chapter 9 omitted	What's due?
14-Jan	Ch 1 Intro	
16-Jan	Ch 2 Variables	**Read before class**: Bohannon (2015)
21-Jan	Ch 3 Frequency	
30-Jan	Ch 4 Central Tendency	Quiz 2: Variables
28-Jan	Ch 5 Variability	Quiz 3: Frequency Distributions
23-Jan	Ch 6 Normal Distribution	Quiz 4: Central Tendency
3-Feb	Ch 6 Normal Distribution	Quiz 5: Variability
6-Feb	**Exam 1**	Quiz 6: Normal Distribution
11-Feb	Ch 7 Correlation: Pearson, Spearman Ch 8 Regression	
13-Feb	**No Class Dr. Estrada @ Conference**	**Submit evaluation of statistical article:** Messerli (2012) Quiz 7: Correlation topics
18-Feb	Ch 8 Regression	
20-Feb	Ch 10 Hypothesis testing and review	Quiz 8: Regression
24-Feb	**Exam 2**	Quiz 10: Hypothesis Testing
27-Feb	Ch 11 Hypothesis Testing t-distribution	
3-Mar	Ch 11 Hypothesis Testing t-distribution	Quiz 11: Single samples test
5-Mar	Ch. 12 Two-sample Hypothesis Testing	
10-Mar	**Spring Break**	
12-Mar	**Spring Break**	
17-Mar	Ch. 12 Two-sample Hypothesis Testing	**Read before class**: Vampati & Telles (2002)
19-Mar	Ch 13 One Way ANOVA	Quiz 12: Two Sample t-test
24-Mar	Ch 13 post hoc tests	
26-Mar	Review	
31-Mar	**Exam 3**	Quiz 13: ANOVA
2-Apr	Ch 14 Two Way ANOVA	
7-Apr	Ch 14 continued	
9-Apr	Ch 14 Cont	
14-Apr	Ch 15 Chi Square	Quiz 14: Two Way ANOVA
16-Apr	**No Class Dr. Estrada @ Conference**	**Submit evaluation of statistical article:** Singh, P., & Ghuman, P. S. (2018) **Extra Credit Due**: Tejeda-Delgado, M. D. C. (2009) AND Mizuno, J., & Monteiro, H. L. (2013)
21-Apr	Ch 15 Chi Square	
23-Apr	Ch 15 Non parametrics	
28-Apr	Ch 15 Non parametrics	
30-Apr	Review	Quiz 15: Chi Square