



## PSY 301-01S UNDERSTANDING STATISTICS

(Cross-listed with PSY 301-51R)

COURSE SYLLABUS: FALL 2021

TR 8:00a – 9:15a, EDS 103

### INSTRUCTOR INFORMATION

**Instructor:** Dr. Benton Pierce

**Office Location:** Henderson Hall – 232

**Office Hours:** Mondays, 1 – 4 pm, Thursdays, 2 – 4 pm, or by appointment

**Email Address:** benton.pierce@tamuc.edu

Preferred Form of Communication: Email

**Note. I will NOT respond to emails without proper salutations.**

### COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required:

Moore, D. S., & Notz, W. I. (2017). *Statistics: Concepts and controversies* (9<sup>th</sup> ed.).

MacMillan Learning. ISBN: 978-1-4641-9300-2

Additional handouts will be distributed through D2L

Software Required:

• Statistical software (choose one):

- JASP (free download for Windows and Mac at <https://jasp-stats.org/>), or
- PSPP (free download for Windows and Mac at <https://www.gnu.org/software/pspp/get.html>)

• Spreadsheet processing software (e.g., Microsoft Excel, OpenOffice.org, Numbers)

• Word processing software (e.g., Microsoft Office Word, OpenOffice.org, Pages)

• Internet Browser (e.g., Mozilla FireFox, Google Chrome, Safari, Opera)

Calculator: A calculator is required. Any calculator that can process square root will do.

I recommend a TI – 30Xa or Casio FX-260 SOLAR. Any other models will need my approval.

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## Course Description

An introductory applied statistics course that focuses on descriptive and inferential statistical methods. Emphasis will be placed on learning statistics through application and experience. Topics include visual displays of data, measures of central tendency and variability, standardized scores, normal distributions, probability, sampling distributions, hypothesis testing, correlation, and regression.

In general terms, this course is about understanding the conceptual background of psychological statistics to provide you with a strong foundation for PSY 302, the next statistics course in your degree plan. The more you understand in this class, the better advantage you will have going forward into PSY 302.

**I strongly encourage you to keep your textbook and any materials you accumulate. They will be a beneficial reference going forward.**

## COURSE REQUIREMENTS

### Minimal Technical Skills Needed

- Using the learning management system (D2L)
- Using word processing software (e.g., Microsoft Word)
- Using statistical software package and/or spreadsheet software (e.g., EXCEL)
- Using a regulator calculator to complete simple statistical computations.

### Student Responsibilities or Tips for Success in the Course

In general, students are expected to invest six to nine hours per week into preparing for this course. To successfully complete the course, students should read the textbook and materials on D2L before class, attend each class, complete each assignment on time, and fully engage in any in-class activities that we may have. Reviewing the course material thoroughly is essential for preparing for the exams and assignments.

## GRADING

Course grades will be determined by the following scale. See the Assessments section for more information.

Evaluation:

Assignments	(4 x 75)	300 points
Exams	(3 x 100)	300 points
Total points possible		600 points

There will be in-class quizzes throughout the semester. The points you earn are counted as extra credits. These extra credits will be added to your final total points before the letter grade is calculated. Research participation through the online Experiment Management System (EMS) is required and extra credits will

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be awarded according to your participation (see below and Students' Guide to Research Participation and Student Memo handouts for details).

Final grades in this course will be based on the following scale:

- A = 89.5% - 100%**
- B = 79.5% - 89.4%**
- C = 69.5% - 79.4%**
- D = 59.5% - 69.4%**
- F = Less than 59.5%**

**Note: Grades will not be rounded!**

### **Assessments**

The course grade will be calculated by your performance in the following exams and assignments:

- I. **Exams** (3 exams; total: 300 points): Exams will constitute a portion of the grade. There will be three exams. Exams will vary in terms of format, but are likely to include both multiple-choice and short-answer/essay questions.
- II. **Assignments** (4 assignments; total: 300 points): Assignments are designed to help students review the material and familiarize with key statistical concepts. Each assignment includes questions at the end of the appropriate chapter, plus several questions that are described at the end of the Homework Assignments Rubric. See the course calendar (pp. 5-6) for the deadlines.
- III. **Research Participation**: A goal of this class is to help you familiarize yourself with research methods. One way to obtain this goal is to have you participate in research studies. Participating in research studies contributes to students and faculty at A&M-Commerce, your understanding of how research is conducted, and human knowledge in general. All students in this class are required to participate in the psychology department's participant pool or complete alternative assignments (see me for more information on alternative assignments). Students must complete a total of 5 credits, and 1.5 or more of them have to be earned from participating in face-to-face experiments. However, if you complete your first 1.5 face-to-face credits without any "no-shows" you will only need to complete 3 credits in total, with 1.5 or more credits earned from face-to-face experiments. Students who are taking this course at CHEC will need to complete 3 credits of online research. When you first sign into the experiment management system (EMS) you will be asked to take a prescreen. The prescreen takes about 20 minutes to complete. If you fail to complete this portion of the class your grade will be lowered by one letter grade. In effect, if you have an 'A' in the class but fail to complete the research participation (either through participating in research studies, alternative assignments, or a mixture of both) your final grade in the class will be a 'B.' More information about participating in research, such as how to log in to the EMS, are included in a separate handout.

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**A Note about Your Grade.** Please remember that the grade you receive in this course is the grade that you **EARN**, not a grade that I “give” you. Therefore, please **do not** come to me at the end of the semester and ask what extra credit assignments you can do to improve your grade. I am happy to help you improve your study skills, but you need to come ask me for help. Furthermore, it is imperative that you ask for help early in the semester, not at the very end. Please remember that I genuinely want you to do well in this course, but that will require taking my advice on how best to study and learn this material.

## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

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## COMMUNICATION AND SUPPORT

### *Interaction with Instructor Statement*

#### **EMAIL POLICY**

In addition to traditional face-to-face office hours, the instructor is available virtually by email during posted office hours. If you would like to schedule an appointment, the best way is to email. We can then set up a time to chat when it is convenient for you. During posted office hours, the instructor will return emails upon receipt. Outside of these times, please allow 24 hours to receive a response on weekdays. If you email me and do not receive an email response within, 48 hours, most likely, your email was not received.

#### **EMAIL GUIDELINES**

In an attempt to provide a framework for professional communication, emails must contain the following:

- Subject Line: Course (e.g. PSY 301); additional information if desired (e.g. Hypothesis testing)
- Address the Reader: Open with Dr. Pierce
- Use good grammar and avoid acronyms (i.e., do not write like you text)
- If asking for assistance with an issue, please list at least 3 things you have done to try and remediate the issue prior to contacting me (these should probably include looking at the syllabus/ course rubrics/ eCollege, contacting a colleague, and checking your text, etc.)
- Close with your name

Please send emails from your University account. The instructor will not discuss grades over email. If you would like to discuss your grade, please make an appointment during office hours.

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

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## COURSE AND UNIVERSITY PROCEDURES/POLICIES

### Course Specific Procedures/Policies

No make-up exam is allowed unless prearranged 48 hours prior to the actual exam date and time. Each assignment is due before class (i.e., 12:30 pm on the due day). Ten points will be deducted from each late assignment if submitted within 24 hours after the deadline, and no assignment is accepted afterward, unless prearranged 48 hours before the deadline.

This class provides a **child-friendly environment**. Students are welcome to bring their child/family under the age of 18 to class when other arrangements are not available. No prior approval is required.

### Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

### University Specific Procedures

#### Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the [Student Guidebook](http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx).  
<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

#### TAMUC Attendance

Students are expected to be present for all face-to-face classes and labs. **Students who have excessive unexcused absences will be dropped from the course**; four or more absences constitute excessive absences for the purposed of this course. Students are responsible for notifying the instructor of an excused absence and providing appropriate documentation when necessary. Students are also responsible for requesting any makeup work during excused absences.

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedure 13.99.99.R0.01](#).

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

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<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty 13.99.99.R0.03](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

[Graduate Student Academic Dishonesty 13.99.99.R0.10](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

### **Students with Disabilities – ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

#### **Office of Student Disability Resources and Services**

Texas A&M University-Commerce

Director: Ms. Sandi Patton

Gee Library- Room 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

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## **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

## **Statement on Counseling Resources**

**The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)**

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### PSY 301 Course Outline/Schedule (Tentative)

Week	Date	Topic	Readings
1	Aug. 31	Introduction; Syllabus	
1	Sept. 2	Where do data come from?	Chap. 1
2	Sept. 7	What do samples tell us?	Chap. 3
2	Sept. 9	Measuring <b>Due: Assignment #1</b>	Chap. 8
3	Sept. 14	Experiments, Good and bad	Chap. 5
3	Sept. 16	Data visualization	Chap. 10 & 11
4	Sept. 21	Data visualization (continued)	Chap. 10 & 11
4	Sept. 23	Describing data: Central tendency	Chap. 12
5	Sept. 28	Describing data: Variation	Chap. 12
5	Sept. 30	Describing data: Variation (continued) <b>Due: Assignment #2</b>	Chap. 12
6	<b>Oct. 5</b>	<b>Exam 1</b>	
6	Oct. 7	Normal distributions	Chap. 13
7	Oct. 12	Standard scores & Percentiles	Chap. 13
7	Oct. 14	Standard scores & Percentiles (continued)	Chap. 13
8	Oct. 19	Basics of probability	Chap. 17
8	Oct. 21	Probability models <b>Due: Assignment #3</b>	Chap. 18
9	Oct. 26	Sampling & sampling distributions	Chap. 21
9	Oct. 28	Confidence intervals	Chap. 21
10	Nov. 2	To be announced	
10	<b>Nov. 4</b>	<b>Exam 2</b>	
11	Nov. 9	Basics of hypothesis testing	Chap. 22
11	Nov. 11	Significance testing and $p$ -values	Chap. 22
12	Nov. 16	Significance testing and $p$ -values (continued)	Chap. 22
12	Nov. 18	Introduction to $t$ -tests	Handout
13	Nov. 23	Two-way tables and the Chi-Square test <b>Due: Assignment #4</b>	Chap. 24
13	<b>Nov. 25</b>	<b>Thanksgiving Holiday</b>	
14	Nov. 30	Scatterplots and correlation	Chap. 14
14	Dec. 2	Regression, prediction, and causation	Chap. 15

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15	Dec. 7	No class – Study for final	
15	Dec. 9	No class – Study for final	
		<b>Final Exam: TBA</b>	

### Homework Assignments:

Be sure to notice that each homework assignment includes problems from the end of the chapters + 1-2 written response questions. These written response questions are described at the end of this document. Written response questions should be answered in a few (e.g., 2-3) sentences using **your own words**. Please type all answers to written response questions. If this means that you will need to submit more than one document (e.g., one for the worked problems scanned as a PDF and one for the typed responses in a Word document) then that is fine. Also make note that students are expected to show work for problems that are underlined in the table below.

Assignment Number	Chapters	Problems
Homework Assignment 1	1, 3, 8	1.4, 1.6, 1.12, 1.22 3.10, 3.18, 3.22, 3.26, 3.28, 3.36 8.10, 8.28, 8.30 Written Response Question - 8.16
Homework Assignment 2	5, 10, 11, 12,	5.2 10.12, 10.16 11.20 12.16, <u>12.22</u> , <u>12.30</u> (a & b only) Chapter 13 Written Response Question (see Homework Assignments Rubric)

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Homework Assignment 3	13, 17, 18	<p>13.10, 13.14, 13.18, <u>13.26</u></p> <p>17.14, <u>17.26</u></p> <p>18.10, <u>18.22</u></p> <p>Now It's Your Turn 13.1 (p. 302)</p>
Homework Assignment 4	21, 22, 24	<p>21.16, <u>21.34</u>, <u>21.38</u></p> <p>22.10, <u>22.32</u></p> <p><u>24.10</u></p> <p>Chapter 21 Written Response Question (see Homework Assignments Rubric)</p> <p>Chapter 22 Written Response Question (see Homework Assignments Rubric)</p>

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