

THE UNIVERSITY OF TEXAS AT EL PASO
COLLEGE OF SCIENCE
DEPARTMENT OF MATHEMATICAL SCIENCES
¡BIENVENIDOS (WELCOME)!

note: From the top of <http://www.math.utep.edu/Faculty/lesser/schedule.html> or our Bb course shell, you can access this syllabus if you misplace yours, want to explore its many links or see any addendums. Syllabus is subject to change by the instructor to meet new mandates or course needs, especially for unexpected school disruptions or big changes in class size, resources, etc.

Course Number: STAT 1380-007 (CRN# 21258)

Course Title: Basics of Descriptive and Inferential Statistics

Credit Hours: 3

Term: Spring 2019

Prerequisite: adequate score on a placement examination or MATH 0311.

(see <http://catalog.utep.edu/search/?P=STAT+1380>)

To be even more confident that you have sufficient math readiness, I recommend that during the first week you try the “Check Your Math Readiness” handout posted in our Bb course shell. It has examples of math skills you will need.

Course Fee: none

Course Meetings & Location: TTh noon-1:20pm (except March 19&21) in **EDUC 202**.

In a disruption (e.g., H1N1 epidemic, subzero weather, etc.), be prepared to maintain course progress via alternative means (e.g., Internet, our Blackboard course shell, Bb Collaborate Ultra (see Bb Announcements), etc.) and check email (especially your UTEP account) regularly. **UTEP set our finals week exam on Thurs., May 14, 1-3:45pm.**

Instructor: Dr. Larry Lesser (rhymes with ‘Professor’, spelled like <).

See background on my homepage <http://www.math.utep.edu/Faculty/lesser/> or hear my introductory rap at <https://www.youtube.com/watch?v=sFizdFK09I8>

Office Location: Bell Hall 213 (by the second-floor water fountain)

Contact Info: Phone: (915) 747-6845

Email: **Lesser (at) utep.edu** (please include **1380** in the subject line so it is easy to see and search for; also, emailing me from your miners.utep.edu address is best because it provides more security and minimizes the chance the UTEP server rejects it)

Homepage: <http://www.math.utep.edu/Faculty/lesser/>

Fax: (915) 747-6502 (note: this is a departmental fax, so be sure to have my name clearly on it; be aware that staff are not available to relay faxes to me outside the math dept’s hours of M-F 8-12, 1-5)

Emergency Contact: (915) 747-5761 (during math dept office hours)

Office hours: by Bell 213 **TTh 1:30-2:20pm** and additional hours or changes will be announced or posted later; you are welcome to try emailing, calling, or stopping by without an appointment for readily answered questions; for questions requiring longer live conversation, just email me several possible times that would work for an appointment and I will reply with which option works in my schedule for a meeting whether it would be in-person, by phone, or via Blackboard Collaborate Ultra (instructions are in Bb course Announcements);

To grade HW/quizzes, our class has been assigned an excellent statistics graduate student (Mr. Ruben Solis, rsolis5@miners.utep.edu) and he offers office hours in Bell Hall 306 MW 3-4; also several tutors at <http://math.utep.edu/marcs> can help with our material

Textbook(s), Materials:

Required textbook: *Jessica Utts' Seeing through Statistics (4th ed; 2015)*. Cengage Learning. (She's a past-president of the American Statistical Association!) The textbook has a supporting website at: http://www.cengage.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=1285050886&discipline_number=17

Subject to change based on timing, resources and interest, here's the main material we plan to (un)cover: **chapters 1-11 (in order) then 14**, including supplementary probability material from the handout [http://www.math.utep.edu/Faculty/lesser/probabilitysupplement\(forUtts\).pdf](http://www.math.utep.edu/Faculty/lesser/probabilitysupplement(forUtts).pdf) on topics such as simulation, sample space, counting rules, the binomial distribution, and the geometric distribution. There may be exposure to a few concepts from other chapters as time permits.

Bring your book (and ABCD card and calculator) to each class. You are expected to read each chapter and try (you don't have to neatly write it all down to turn in unless I specifically announce at least two calendar days in advance that it will be collected) the selected HW problems for that chapter (see below) before the class meeting we discuss that chapter (so that you are able to understand more and offer more to the discussion). **For each chapter covered, there will be one or more of the following:** (1) in-class informal assessment (e.g., questions I pose to you during discussion), (2) having you turn in on paper the below chapter exercises (but only if I give you at least 2 calendar days' advance notice that it will be collected for that chapter), or (3) a quiz (with or without advance notice; sometimes in class, sometimes as take-home).

Ch. 1 (1,3,4,5,8,10,18,19,21); Ch. 2 (3,5,6,10,14,15,18); Ch. 3 (1,2,6,8,9,13,18,21-26,32,33,36); Ch. 4 (1-3, 6, 10-12, 17-19, 21,26,28,33); Ch. 5 (1,4-6,9,19,24,27,30,35-37,39,42); Ch. 6(TBA); Ch. 7 (1-3,6d,9-16,18,21,24,27,29-31,34,36,38); Ch. 8 (1,3,7,9b,10,13,15,18,20,24,25); Ch. 9 (1,3,6,8,9b,11,14,17-19,21,27); Ch. 10 (2-4,7-11,13-15,18,20,21,24,29); Ch. 11 (1,3-7,10-12,15,16,18,21,23,30,31); Ch. 14 (1,3,6,9-14,16a,17,19-22,24,28d,34); a few additional exercises may be announced later

Required technology:

- **“low-tech” clicker (ABCD Card), brought to each class, starting Jan.24:** <http://www.math.utep.edu/Faculty/lesser/ABCDclassResponseCard.pdf> (print the card from the URL above on a color printer or print it black-and-white and color it in with the same color scheme as the URL above) see the “Participation” section in this syllabus for more information
- **calculator (with square root key) brought to each class after we begin chapter 4:** You'll be allowed to use it on virtually all activities and assessments (but it really has to be a separate calculator, because you aren't allowed to use Internet-enabled/storage devices such as a laptop, smartwatch, or cell phone on tests). You still must show enough work so I can follow your process. Example: to find mean of {3, 4, 5, 5, 8}, don't just say “5”, but write

out $(3 + 4 + 5 + 5 + 8) / 5 = 5$. A few calculations will be easier with a graphing calculator (you can use Google to find many resources on how to do statistics with your calculator; I will sometimes demonstrate things with a **TI-83/84** -- their Guidebooks are under the Downloads pulldown menu at the above link; also see http://www.prenhall.com/esm/app/calc_v2/) but if you don't already own one, you can manage with a scientific calculator or even a simple calculator that can do basic arithmetic such as **square roots**. As logistics and interest allow, I'll also expose you to how stats are computed with applets and software (Excel, Minitab). While **Minitab** is in some on-campus labs (e.g., <http://utep.edu/chs/ilc>), it is possible to access it anytime anywhere (even in class or at home!) using **UTEP MY.APPS** (see <https://admin.utep.edu/Default.aspx?tabid=74096> and <https://admin.utep.edu/Default.aspx?tabid=74328> and <https://admin.utep.edu/Default.aspx?tabid=74340>) its Calc, Stat, Graph pulldown menus have about all you'd need (and more)!

(other technology resources you may want to explore on your own include:

<http://learn.desmos.com/statistics/>, <https://www.desmos.com>,
<http://codap.concord.org>, <https://www.jake4maths.com/grapher/>,
<https://www.stat.auckland.ac.nz/~wild/iNZight/index.php>, <https://tuvalabs.com/>;
 also, students can sometimes get free time-limited licenses of software such as
<http://fathom.concord.org/> or <https://www.tinkerplots.com/> or Probability Explorer

Course Objectives (Learning Outcomes): Students will be able to....

apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.

Numerical and graphical summaries of one-variable and two-variable datasets are interpreted, produced, and described verbally. We assess the reasonableness of linear models to data sets. We assess the reasonableness of a study's conclusions based on that study's qualities (e.g., was randomization used?).

represent & evaluate basic mathematical information verbally/numerically/graphically/symbolically

Numerical and graphical summaries of one-variable and two-variable datasets are interpreted, produced, and described verbally.

expand mathematical reasoning skills & formal logic to develop convincing mathematical arguments.

Reasoning used to apply probability rules and to critique statistical studies (and to assess whether a claim of significance is warranted).

use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results.

technology incorporated such as spreadsheet software, internet applets/simulations, or graphing calculators.

interpret mathematical models (formulas/graphs/tables/schematics) and draw inferences from them.

Histograms, scatterplots, boxplots, tables, regression lines, etc. are interpreted.

recognize the limitations of mathematical and statistical models.

Studies done without random selection and/or random assignment are recognized as limited. Pitfalls and limitations of experiments (e.g., ecological validity), observational studies (e.g., no random assignment), and surveys are discussed. Formulas such as margin of error are recognized not to apply for a volunteer sample, for example.

develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

Because statistics can be applied to data from virtually all disciplines, it is natural to make clear interdisciplinary connections. Statistics and its tools are much newer field than the mathematics in "other math core classes". The connection to human culture comes into play with the human judgments that go into writing "the best" survey question, or deciding how to handle an outlier value, etc.

This course will expose you to typical intro topics but with particular emphasis on and grounding in conceptual understanding and statistical literacy in real life. You deserve, need and will be offered more than a plug-and-chug, memorize-the-recipes experience! You'll be able to critically evaluate statistics commonly found in the media and in your major field. You'll become acquainted with what is involved in the collection, interpretation, and communication of real-world data to explore questions of interest.

Also, **future teachers** will have the chance to gain background to handle probability and statistics questions on the TExES/ExCET (<http://cms.texas-ets.org/prepmaterials/>), teach related TEKS (<http://ritter.tea.state.tx.us/rules/tac/chapter111/index.html>), and make appropriate connections to the NCTM Standards (<https://www.nctm.org/Standards-and-Positions/Principles-and-Standards/>), the GAISE PreK-12 Curriculum Framework (<http://www.amstat.org/Education/gaise/>), and the Common Core State Standards http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf. Your instructor has even taught some statistics on a children's educational TV show to local first and second graders: <https://youtu.be/iVeCN6dTvzo>. Also, see <http://www.amstat.org/ASA/Education/K-12-Educators.aspx#classroom?hkey=09d2addb-f9d1-42a8-bb71-3f395265b531>

Course Activities/Assignments: Students will participate in in-class activities, demonstrations, discussions, readings, and assessments. Assigned homework exercises from the textbook are listed previously on this syllabus where the textbook is stated.

Assessment of Course Objectives: Assessments include written reflections, quizzes, exams, and a final project.

Course Schedule: UTEP Census Day: Wed. Feb. 6
March Exam: currently scheduled for Th March 7
Turn in Data Analysis Project Proposal on or before March 7
(<http://www.math.utep.edu/Faculty/lesser/1380proposal.pdf>)
or <http://www.math.utep.edu/Faculty/lesser/1380proposal.docx>
or <http://www.math.utep.edu/Faculty/lesser/1380proposal.html>)
Instructors submit freshmen midterm grades by March 21
Deadline to Drop with a "W": Fri., April 5 (College of Science won't approve drop requests after this except for withdrawal of all courses)
Oral Presentation of Data Collection Projects: currently scheduled for April 30, May 2, and May 7
Project Writeups due: Tues., May 7
Last Regular Class Meeting: **Thurs., May 9**
May (finals week) Exam: Tues., May 14, 1-3:45pm (as set by UTEP registrar; focusing on material AFTER the material covered by the midterm)

Grading Policy: after any rescaling needed for all components to be on the same 0-100 scale, the letter grade is determined by the usual cutoffs of 90-80-70-60 based on these:
* **March Midterm (23%)** at least a week or two in advance, I'll confirm the exact material covered, the date, and the major tables and unannotated formulas from the textbook that will be provided on each of the 2 tests; **bring your own calculator (see p. 2 of the syllabus), #2 pencils, and a 50-question Scantron sheet 882-E form** (UTEP Bookstore has it); the main emphasis of the exam is not on memorization or rote procedures, but on being able to recognize, apply, critique, and interpret concepts in context (e.g., in newspaper articles or graphs), even if the questions have a multiple-choice format; it is recommended that you study with a partner your class notes, the textbook chapters, homework, and quizzes.
* **May 14 Exam (23%)** – focusing on material AFTER the material covered by the midterm; **bring your own calculator (see p. 2 of the syllabus), #2 pencils, and 50-question Scantron sheet 882-E form**
* **Quizzes/HW/Reflections (23%)**: some of these will be with a partner, some will be "solo"; some may be in class, some "take home"; **no more than your top 8 scores will count.** (So quizzes are your

friend – not only do they help you assess your understanding before an exam, but after we’ve had the “top number that count”, your quiz score can only increase, so you actually want me to give you as many quizzes as possible!) To be sure you get credit for your written work, you need to use your full name since there are often students in the class who share a first or last name. The nature/number of these items will be determined after the instructor has full information about quality/quantity of grading support as well as operationalization of new mandates. Unless otherwise announced, each score in this category will be reported on a scale of 10 points rather than 100.

* **Team Project (31%)** – for deadlines, see Course Schedule above; for requirements, see

<http://www.math.utep.edu/Faculty/lesser/Stat1380DataProject.html>

* these are the only **Extra Credit** opportunities:

(1) 3 points on your March exam by turning in first day of class survey by 3 pm Jan. 28

(2) 3 points on your May exam if you attend poster session A or B at

<http://couri.utep.edu/index.php/symposia/upcoming>, choose ONE particular poster that involves statistics, and type up a 1-2 page reflection (and give it to me by April 18) that: gives the poster’s full title and presenter(s) and why you chose it, explains in a couple of sentences what the poster was about, describes the specific statistical terminology and/or tools used that relate to our course material, and then shares something specific you learned from viewing the poster and talking with its presenter.

(3) up to 3 points on your May exam by turning in

<http://www.math.utep.edu/Faculty/lesser/ARTofSTATISTICSJan2019.pdf> by 3pm, April 25. (note: if you have it ready by April 1, you can also choose to enter it for free in a contest at <https://www.causeweb.org/cause/uscots/uscots19/a-mu-sing/rules>; if that contest awards you a prize, you’ll get an additional point)

(4) points added to all May exam scores based on our class’ response rate for the end-of-course evaluations (95% = 5 pts., 90% = 4, 85% = 3, 80% = 2, 75% = 1), assuming UTEP continues to allow this reward and lets me see the rate in a timely manner

Makeup Policy:

A makeup **exam** is possible if you take the initiative to send me an email or voicemail within 24 hours (or the earliest medically possible opportunity) that tells me: (1) why missing the scheduled class exam date was unavoidable and unforeseen (even if it takes another few days to relay to me written documentation such as a doctor’s note, jury summons, letter from a employer/athletic/military supervisor, etc.) for a serious reason, and (2) states multiple specific days and times within the next few days when you would be available to take a makeup exam.

With a **missed in-class quiz**, or a **missed deadline** to turn in a homework assignment or take-home quiz, you have these choices: (1) don’t worry about it because no more than the top 8 HW/quiz scores count and we often have nearly twice that many, so missing one doesn’t have a big negative impact on your grade – it just means that score won’t be a score in your top 8; (2) if you can’t get to UTEP the day a homework assignment is due, you can simply email or fax the assignment by the time it is due; (3) Out of fairness and logistics, late work is generally not accepted. However, for a serious reason for which you email or hand me third-party documentation (e.g., doctor’s note, jury summons, employer/athletic/military supervisor signed note) **within 48 hours**, then (depending on the situation) the instructor will choose either to allow the assignment to be turned in late and graded or simply to declare your missed score to not affect your percentage of dropped scores allowed (so, for example, if you missed two of 16 score opportunities for such approved documented reasons, your HW/quiz average simply would be your top 7 scores while everyone else counted their top 8 scores).

Attendance Policy: I view attendance as **required** and here's why: Much of this course involves beyond-the-book group activities, experiences or discussions that are virtually impossible to recreate or "make up." Successful completion of this course is intended not only to imply you have demonstrated sufficient knowledge acquisition, but also that you have been exposed to key processes, modeling, and experiences (which are especially important for future teachers, for example). Therefore, if you are now in a situation where you expect to have frequent absences, you might consider taking this class in another section or another semester. Attendance is generally taken each meeting using a sign-in sheet and it's your responsibility to sign it and not wait until the end when I'm packing up materials. Blatant nonparticipation, late arrival, or early departure may be counted as a half-absence or absence, depending on what is missed. That said, **it is always better to attend some of a class than none of a class.**

As the UTEP *Catalog* says, "When in the judgment of the instructor, a student has been absent to such a degree as to impair his or her status relative to credit for the course, the instructor may drop the student from the class with a grade of "W" before the course drop deadline [Fri., April 5] and with a grade of "F" after the course drop deadline." In practical terms, this means a student is **subject to being dropped for 6 or more absences** (unless you have given me a written or emailed reason I have approved). If you choose to withdraw, I ask that you submit the formal paperwork and send me an email to let me know; **don't just stop attending class and assume I will automatically withdraw you.** On a positive note, a strong record of attendance will be taken into account if your final average is a point below a letter grade cutoff.

It's **your responsibility** to....

- (1) give me a written note or email by the 15th day of the semester [Mon., Feb. 11] if you will have absence for religious holy days (which are excused, of course).
- (2) give me an email or written documentation as soon as possible if you anticipate the possibility of missing large parts of class due to exceptional circumstances such as military service/training, childbirth, or competing on official UTEP athletic teams.
- (3) let me know by email (**Lesser (at) utep.edu**) or voicemail (747-6845) or daytime math dept. fax (747-6502) at the *earliest opportunity* if you have a serious situation which may affect a test, major assessment deadline, the final exam week meeting, or a large number of "regular" class days. **If you miss a "regular class meeting," you don't need to contact me – just get notes and announcements from a classmate and be sure you have contact information for at least 3 classmates for this purpose.**

Academic Integrity Policy: It's UTEP's policy (and mine) for all suspected violations to be referred to the Dean of Students for investigation and disposition (see the Handbook of Operating Procedures, <https://www.utep.edu/vpba/hoop/>). Cheating, plagiarism and collusion in dishonest activities are serious acts which erode the university's purpose and integrity and cheapen the learning experience for us all. Don't resubmit work completed for other classes without specific acknowledgment and permission from me. It is expected that work you submit represents your own effort (or your own group's effort, if it is a group project), will not involve copying from or accessing unauthorized resources or people (e.g., from a previous year's class). You must cite references that you do consult, using **APA style** with complete citations even for websites and people you consult.

For Group Work: Within a group, members are allowed to divide up subsets of the project for which individuals will take the initial responsibility for coordinating efforts, but it is assumed that by the time a group turns in a writeup that all members have read, discussed, contributed to, and understand what is being turned in. Group members may even discuss general ideas and strategies with members of other groups, but NOT share parts of

actual written work. At a minimum, to be safe, put away all written notes and writing materials and recording devices before having any intergroup conversations. And if you still see a “gray area,” play it safe and ask the instructor! Conversations between teams are not allowed during in-class quizzes taken as teams.

Civility Statement: We should all strive to follow basic standards of courtesy. Our comments during classroom discussions should focus constructively and respectfully on the intellectual merit of a position, *not* critiquing the person expressing it. Please avoid side conversations when one person (me, or another student) is address the class. Engaging in activities such as texting, Facebook, YouTube, phone conversations, or emailing are inappropriate because they distract and impact class participation by you and others. If you are expecting an urgent call, ***please keep your phone on vibrate*** instead of anything loud, sit near the door to minimize disruption, and have the phone handy so you don’t have to dig around for it. Or you might give your childcare provider or family member the phone number for the campus police (747-5611) so you can rest assured that someone will let you know if there is an emergency. Finally, know that free speech has limits and that the ***UTEP Handbook of Operating Procedures*** prohibits communication that is harassing, disruptive, or that incites imminent violations of law. Violations may be referred to the Dean of Students or Campus Police.

Student Accommodations Statement: If you have or believe you have a disability requiring accommodations, you may wish to self-identify by contacting the Center for Accommodations and Support Services (CASS; 747-5148; East Union Building 106; cass@utep.edu; <https://www.utep.edu/student-affairs/cass/>) to show documentation or register for testing and services. CASS will ask you to discuss needed accommodations with me within the first 2 weeks of the semester or as soon as disability is known, and at least 5 working days before an exam. At the start of a term, CASS sometimes has processing delays, and you are responsible to contact (and follow up with) CASS promptly so that I receive the CASS accommodation letter as soon as possible. CASS provides note taking, sign language, interpreter, reader and/or scribe services, priority registration, adaptive technology, diagnostic testing for learning disabilities, assistance with learning strategies/tutoring, alternative testing location and format, and advocacy. Depending on the specifics of your accommodations, I may need to email you to set up a live conversation with you about the best approach, so please be responsive.

Military Statement: Give me an email or written documentation as soon as possible if you anticipate the possibility of missing large parts of class due to military service.

ADDITIONAL INFORMATION

Catalog Description: “A course in **statistical literacy**. Emphasis will be on standard descriptive measures of location, spread, and association. Regression, probability and sampling, and binomial distribution. **Interpretation** of data which occur in **daily life** (polls, weather forecasting, surveys, quality control, etc.) will be stressed.”

Professionalism Statement: Beyond the previously mentioned Civility Statement, students in this course are expected to exhibit professionalism that goes beyond avoiding negative behaviors. This includes making a good faith effort in preparation for and

participation in individual and collaborative class activities. This also includes supporting a classroom culture respecting “incorrect answers” as usually correct answers to a different question or valuable opportunities to address an important distinction or common misconception. (*Fun Fact*: “mistakes” led to inventing sticky notes, penicillin, and rubber tires!) Also, be open to local opportunities for professional growth or service. For example, future teachers may consider encouraging K-12 students to enter an **ASA Project or Poster** (due April 1) or joining (at cheaper student rates!) professional organizations -- local (GEPCTM), state (**TCTM**), or national (**NCTM**, **TODOS**, etc.). You can also get a taste of student research by attending (and one day presenting at) events on campus such as the COURI symposium and the strongest student project authors in our class might consider entering a national contest:

<https://www.causeweb.org/usproc/USCLAP%20Competition>.

Finally, start to be aware of statistics in the mass media around you, in places such as:

<http://www.gallup.com/home.aspx>, <https://www.statslife.org.uk/significance>,
https://www.causeweb.org/wiki/chance/index.php/Main_Page, <http://stats.org>,
<http://usatoday30.usatoday.com/snapshot/news/snapndex.htm>,
<http://nieonline.com/coloradonie/downloads/minipage/MiniPage8.10.16.pdf>, etc.

Participation: Part of your expected daily class participation involves answering questions posed by the instructor. These questions are ongoing assessment designed to give feedback to you as well as to the instructor. Some questions will be answered “simultaneously and anonymously” using the research-backed, classroom-tested ABCD Class Response Card. **Each student is responsible for bringing to each class the ABCD Card** that has the same color scheme as the one located at this URL:
<http://www.math.utep.edu/Faculty/lesser/ABCDclassResponseCard.pdf>.

Your participation can only help (not hurt) your learning and grade. If I call on you on a day you’re not feeling well, you may “pass” to a classmate.

Confidentiality: UTEP policy requires that inquiries about confidential information such as grades cannot be done over the audio phone, but can be from your miners.utep.edu account and accompanied by your 800 number. Some grade information will be posted in our Bb course shell.

Acknowledgment on ELL and Equity Awareness: Development of this class was supported in part by the US DOE grant **Project LEAP-UP**. Many of you are/were ELLs or will soon teach them. I will model strategies that help ELLs (and others, too!) and incorporate awareness of ELL issues and resources in probability/statistics (e.g., **my 2011 paper in Statistics Teacher Network**, resources at <http://www.tsusmell.org/>, and <http://isi.cbs.nl/glossary/index.htm>. The **English Language Proficiency Standards** require language acquisition and academic success in all content areas for students at all 4 levels (beg., int., adv., adv. high) in all 4 domains (listening, speaking, reading, writing). Finally, consider that the grade level readability of *any* subject’s text is from a *statistical* model based on average number of syllables per word, average number of words per sentence, etc. (e.g., see “readability” in MSWord Help).

Development of this class was also supported in part by US DoE grant Project ACE (ACtion for Equity) and some statistics examples we discuss involve or apply to equity, such as gender equity. Check out the cool poster at <http://www.cdc.gov/nchs/about/poster.htm> and some resources at <http://www.math.utep.edu/Faculty/lesser/equity.html>

Other Resources: For those who may be helped by consulting statistics books for additional mathematical theory, conceptual intuition, or real-world connections, go to the UTEP library circulation desk and ask them to look under “STAT 1380”). Also, know that there are free statistics textbooks online (e.g., <https://openstaxcollege.org/textbooks/introductory-statistics/get> or <http://onlinestatbook.com/>) that can be consulted as references as well. I compiled <http://www.math.utep.edu/Faculty/lessor/StatEdIntro.html> to share applets and other resources that not only can help your own understanding in this course, but also offer further context and connections with some topics. Please let me know of other resources you find helpful that I may not know about.

Calculation pages: <http://statpages.org/> (includes much beyond our course)

Classroom connections (interesting for all, especially future teachers):

<http://ww2.amstat.org/education/stn/> (e.g., browse issue #64)

<http://www.statisticsteacher.org/>

<https://www.causeweb.org/cause/resources/>

<http://www.amstat.org/asa/education/K-12-Statistics-Education-Webinars.aspx>

<https://onlinelibrary.wiley.com/journal/14679639> (UTEP students have access through the UTEP library webpage)

UTEP Library: Also, I’ve put some statistics books with other conceptual intuition or real-world connections on reserve at the circulation desk under “Lesser” or “Stat 1380.” On the 2nd floor, [free walk-in tutoring](http://marcs.utep.edu) is available for this course (<http://marcs.utep.edu>; Library 218; 747-5366) as well as [free help with writing papers](http://uwc.utep.edu) (Library 227; 747-5112; Writing Center (Library 227, 747-5112, <http://uwc.utep.edu>)).

General study tips: <http://www.math.utep.edu/Faculty/lessor/mathtips.html>

Campus Concealed Carry: <http://sa.utep.edu/campuscarry/> (knives over 5.5” remain banned on campus)

Student Support: My training is limited to academic resources (e.g., my chapter on statistics anxiety on (e)reserve in the UTEP library under “MATH 5364”), but I want anyone who feels overwhelming stress/crisis to know about these broader resources:

- **UTEP’s Counseling Center** (free counseling to all students): 202 Union West, 747-5302 (which after-hours goes to a crisis line)
- El Paso’s Mental Health Crisis Line: 779-1800 (24 hours)
- **National Suicide Prevention Hotline** or **Veterans Crisis Line**: 1-800-273-8255
- **NAMI (National Alliance Against Mental Illness) of El Paso**: 534-5478
- <http://caringeducators.tumblr.com/survival>