note: From http://www.math.utep.edu/Faculty/lesser/schedule.html, you can access this syllabus if you misplace yours, want to explore its links, or see any updates to it. Syllabus is subject to modification by instructor to meet course needs, especially if there are unexpected disruptions or changes in class size, resources, student backgrounds, etc.

**Course Number:** MATH 5361 (CRN# 26961)  
**Course Title:** (Qualitative) Research Methods in Mathematics Education  
**Credit Hours:** 3  
**Term:** Spring 2015  
**Prerequisite:** MATH 5360  
**Course Fee:** none

**Course Meetings & Location:** Wed 5-7:50pm in Bell 130 (room may be subject to change). If there’s a major disruption (e.g., H1N1 epidemic, subzero weather, etc.), be prepared to maintain course progress via alternative means (e.g., phone, Internet, a Blackboard course shell, etc.) and check your email (especially your UTEP miners account) regularly.  
UTEP set our finals week meeting time as Wed., May 13, 7-9:45pm.

**Instructor:** Dr. Larry Lesser (rhymes with ‘Professor’, spelled like < ). I began teaching university courses (especially stats!) in 1988 (at UTEP since 2004), and I’ve also worked as a state agency statistician, a HS math teacher, and director of a university-wide teaching center. I’ve served on national statistics education journal editorial and research advisory boards and have published quantitative and qualitative studies in statistics education journals aimed at researchers (e.g., *Statistics Education Research Journal, Journal of Statistics Education*) as well as papers in journals aimed at teachers (e.g., *Teaching Statistics, Mathematics Teacher, Statistics Teacher Network, STEW: Online Journal of K-12 Statistics Lesson Plans*).

**Office Location:** Bell Hall 213 (but I am sometimes across the street in UGLC 122)  
**Contact Info:** Phone: (915) 747-6845 (if I’m in UGLC 122, it’s 747-8940)  
Email Lesser (at) utep.edu (please include 4370 in the subject line)  
also, note that emailing me from your miners address is recommended because it provides more security and it reduces the chance of the UTEP server rejecting 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: the 20 minutes right before and right after our class and by appointment; additional office hours or changes will be announced/posted later; you are also welcome to try stopping by anytime for short questions; for longer questions, send me an email several possible times that would work for you and I will reply with which option works in my schedule for a live conversation.

Textbook, Materials:


Read/do each assignment before the class meeting we discuss it.

To tailor the course to specific mathematics education research and because no single book completely covers all goals of this course, we supplement this book with handouts, individual articles, online resources and demonstrations, taking into account class backgrounds, interests, and time available. (Note: in case it takes time for you to buy the book from the bookstore, you can access this book using 2-hour checkout from the UTEP library hardcopy reserve for Math 5361 at the Circulation Desk.)

- **Additional required readings** will be made available to you without cost in one of the following ways (depending on logistics and copyright issues):
  - on the Internet (e.g., certain open-access journal articles and websites like [http://www.math.utep.edu/Faculty/lesser/ResearchResources.html](http://www.math.utep.edu/Faculty/lesser/ResearchResources.html)).
  - sent by email to the email address that UTEP has on file for you.
  - at UTEP library hardcopy reserve at Circulation Desk (under Lesser or 5360 or 5361)
  - on UTEP library electronic reserve via library homepage: Search and find → course reserves → type “Math 5360” → Lesser → Readings.
  - from a UTEP library database (go to the UTEP library home page, and type the exact name of the journal’s title into the “search Encore” window at the top left corner. This usually results in your being able to access the journal from one or more sources. Be aware that sometimes the listing suggests that fewer years are available than actually are, so always click as far as you can.)
  - in our class Blackboard shell

Course Objectives (Learning Outcomes): Students will:

- Increase ability to navigate, critique, and synthesize the research literature in mathematics education (which is assumed to include statistics education)
- Gain familiarity and hands-on experience with (primarily qualitative) methodology options and how to choose an option that aligns with the student’s research question in mathematics education
- Develop understanding of criteria for rigor, reliability and validity in qualitative research
- Develop understanding of triangulation (four types: data, researcher, theory, method)
- Develop understanding of how qualitative methods can complement quantitative methods
- Understand pitfalls and ethical principles of (qualitative) research and how to comply with Institutional Review Board (IRB) requirements
- Write and present a mathematics education research paper that uses current edition of APA style
- Learn how to contribute to and benefit from being part of a community of (emerging) scholars, including peer debriefing and feedback on oral and written communication
Course Activities/Assignments: Students will participate in in-class activities, demonstrations, discussions, presentations, readings, papers, and assessments.

Assessment of Course Objectives: Assessments may include written homework (e.g., reflections or projects), quizzes, papers, presentations, and exams.

Course Schedule:
- Census Day: Wed., Feb. 4 for UTEP
- Midterm Exam: currently set for March 4, but subject to change
- Deadline to Drop with a “W”: Mon., April 6
- Last Regular Class Meeting: Wed., May 6
- Presentation of Final Papers: Wed., May 13, 7-9:45pm (as set by UTEP registrar, with approval needed for any modifications) if you have a pre-approved reason not to be able to present during this time, you need to arrange with me as soon as possible how to meet your obligations before the finals week meeting date

Grading Policy: after any rescaling needed for all components to be on the 0-100 scale, the grade is determined by the usual cutoffs of 90-80-70-60 based on these 3 parts:
* Midterm Exam (20%) at least a week or two in advance, I’ll confirm exact date and material covered
* Homework/One-page Reflections/Projects/Quizzes (35%)
* Final Paper (35%) – due at our last regular class meeting, May 6 (this deadline gives you several days to focus only on the oral presentation; many research conferences work this way -- you submit your paper well before you present it so that a proceedings volume of everyone’s papers can be prepared in advance and released at the conference); details about what is expected in the paper should be available by the third class meeting
* Oral Presentation of Final Paper (10%) at our finals week meeting (Wed. May 13)

Makeup Policy: In general (out of fairness and logistics), late work will not be accepted, and may be subject to a penalty in the rare borderline cases that it is accepted at the instructor’s discretion. If an in-class quiz or exam is missed, the instructor will consider a “makeup arrangement” (i.e., the instructor will choose to either offer a makeup assessment or simply replace that part of the grade with the final paper) only if: (1) the student relays to the instructor (by email) within 24 hours (or the earliest medically possible opportunity) why missing the scheduled class exam date was unavoidable for a serious reason, and hand or email the instructor a written statement or document (e.g., doctor’s note) within 7 calendar days, and (2) the student takes the initiative to contact the instructor by email with available days/times for a makeup exam as soon as possible (if it takes 2 or more calendar days just to get an appropriate email response from the student, the instructor would consider a makeup only in the most extreme and documented circumstances).

Attendance Policy: Attendance is expected 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 each day you attend before the end when I am busy packing up materials. Late arrival, early departure, or blatant nonparticipation may be counted as a half-absence or even a full absence, depending on what is missed.

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 [Mon., April 6] and with a grade of ‘F’ after the course drop deadline.” In practical terms, this means a student is subject to being dropped for more than 3 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 rather than just stop attending class and assume you will be withdrawn automatically. 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. 9] 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 single “regular class meeting,” you don’t need to contact me, but you DO need to get copies of notes and announcements from a classmate, so 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 for Operating Procedures: http://admin.utep.edu/Default.aspx?tabid=73922)

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! Intergroup conversations are not allowed during in-class quizzes taken as teams.
**Civility Statement:** You are expected to follow basic standards of courtesy (e.g., “Student Conduct” and “Disruptive Acts Policy” in the UTEP Catalog: http://catalog.utep.edu/undergrad/academic-regulations/student-life-policies-and-procedures/) and may be dismissed from class for blatant or sustained disruptive behavior. Your comments during classroom discussions need to focus constructively and respectfully on the intellectual merit of a position, not criticizing the person expressing it. You should avoid side conversations when one person (me, or another student) is talking to the whole class. You may have a laptop open for taking notes during lectures or appropriately accessing an electronic copy of class materials, but engaging in activities such as texting, Facebook, YouTube, phone conversations, or emailing are generally inappropriate, especially because they can distract and disrupt class participation.

If you are expecting an urgent call on your cell phone or pager, please let me know and sit near the door to minimize disruption (and have your phone on vibrate/silent instead of anything loud), and have it handy so you don’t have to dig through a backpack for it). Otherwise, please keep your phone/pager off during class. Feel free to give your family member or childcare provider the phone number for the campus police (747-5611) or the academic office or lab nearest our classroom so you can rest assured that you can be reached quickly if there is a true emergency.

**Disability 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; Union East Building 106; cass@utep.edu; http://sa.utep.edu/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. You are responsible to make sure I receive any CASS instructions and accommodation letters. 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.

**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**

**Professionalism Statement:** Beyond the previously mentioned Civility Statement, students in this course are required 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. A classroom culture must be actively supported that understands that “wrong answers” are usually correct answers to a different question or valuable learning opportunities to address a common misconception.

**Confidentiality:** UTEP policy requires that inquiries about confidential information such as grades cannot be answered over the phone, but can be answered in person. If you want to know your course grade between our last meeting and when UTEP puts grades online, you will have a chance during the last week of class to give me a “secret code word” that
I will post your course grade by at the bottom of my homepage (or, alternatively, I may just post grades in the Blackboard course shell).

**TOOLS (mostly free) FOR QUALITATIVE DATA ANALYSIS:**

- [http://cat.ucsur.pitt.edu/](http://cat.ucsur.pitt.edu/)
- [http://rqda.r-forge.r-project.org/](http://rqda.r-forge.r-project.org/)
- [http://www.transana.org/](http://www.transana.org/)
- [http://compendium.open.ac.uk/institute/](http://compendium.open.ac.uk/institute/)
- [http://www.pressure.to/qda/](http://www.pressure.to/qda/)
- [http://discovertext.com/](http://discovertext.com/)

**BIBLIOGRAPHY** (papers assigned for reading often come from this list; see techniques for accessing them listed on p. 2)

  - [https://mariosanchezaguilar.files.wordpress.com/2012/10/aguilar_rosas_zavaleta_2012.pdf](https://mariosanchezaguilar.files.wordpress.com/2012/10/aguilar_rosas_zavaleta_2012.pdf)
Mathematics, 43(1), 65-94.