

ECON 3318: Data Analysis & Visualization Course Syllabus

University of Texas at Arlington, Fall 2017

Course materials can be found on Blackboard: elearn.uta.edu

Course Details

Course Time/Place: TTH 12:30 – 1:50, COB 349
Instructor: Christy Spivey
Email: cspivey@uta.edu
Office Phone: 817-272-1218
Office: COB 328
Office Hours: TR 2:00 – 4:00PM, or by appointment



Course Description and Student Learning Outcomes

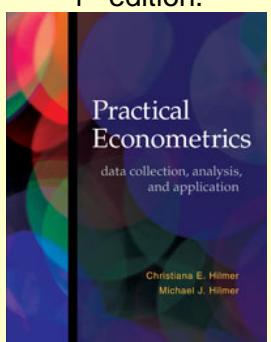
The application of data analysis and visualization techniques in order to formulate solutions to business problems, analyze relationships between economic variables, and convey findings in a clear and impactful way using programs such as Excel, Stata, and Tableau. Emphasis is placed on applications and hands-on data analysis. Prerequisites: STAT 3321 or MATH 3313

By the end of the semester you will be able to:

- Apply various statistical techniques to uncover answers to economic questions
- Estimate parameters of a regression model using a statistical package
- Interpret the results of the estimations performed and test hypotheses about economic behavior
- Gain a working knowledge of Microsoft Excel as a statistical package, including Excel Problem Solver to solve real business problems
- Utilize data visualization techniques to communicate implications of data analyses
- Gain a working knowledge of Tableau

Recommended Book

Hilmer and Hilmer,
Practical Econometrics,
1st edition.



“Learning results from what the student does and thinks and only from what the student does and thinks. The teacher can advance learning only by influencing what the student does to learn.”

-Herbert A. Simon, Nobel Laureate

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Other Book Options

Introductory Econometrics: A Modern Approach by Jeffrey Wooldridge, any edition.

Principles of Econometrics by Carter Hill et al, any edition.

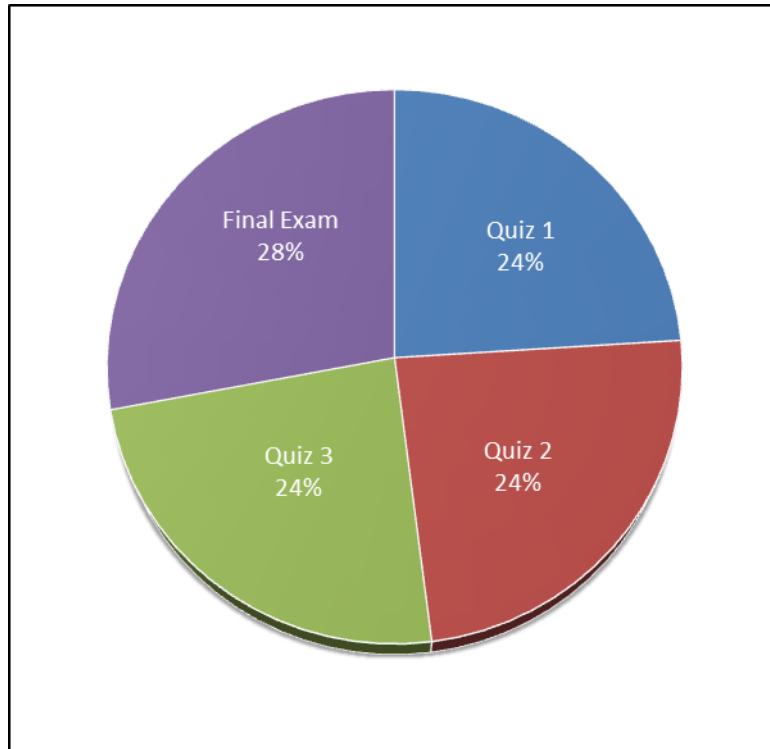
Understanding Econometrics by Dennis Halcoussis, any edition.

FREE: Econometrics by Thomas Andren <http://bookboon.com/en/econometrics-ebook>

Assessment

Your grade will be determined by 3 in-class econometrics quizzes and a final exam. The percentage of total points will be allocated as follows:

Quiz grades (24% each):	72%
Final Exam	28%



Your letter grade will be determined by the percentage of total points earned as follows:

A	<i>90% and above</i>
B	<i>80 – 89.99%</i>
C	<i>70 – 79.99%</i>
D	<i>60 – 69.99%</i>
F	<i>below 60%</i>

I do not curve individual assignments or final grades. I also do not offer extra credit beyond what is mentioned in this syllabus. I only assign incompletes in the course for documented health/family emergencies. Please do not ask me to assign an incomplete if you intend to drop the course but forget to do so.

Please use the [grade calculator](#) posted on the Welcome page in Blackboard to determine your assessment progress throughout the semester.

Assignments

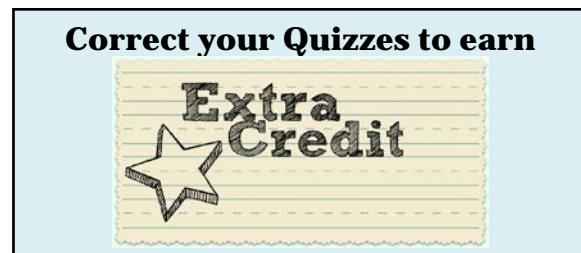
Quizzes

Quiz dates are listed below. Quizzes will emphasize material covered since the last quiz, although certain topics we cover may show up on more than one quiz. You will be required to bring computer output from previous homework assignments (since the last quiz) to class for each quiz. **You are not allowed to share these materials.** Please also bring a pencil and non-programmable, scientific calculator to each quiz. No makeup quizzes will be given unless my permission is given BEFORE the quiz. You can take a makeup quiz early or late ONLY if you have appropriate documentation (e.g., a doctor's note, not simply verification you went to the health center). If you do not contact me prior to a missed quiz you will receive a zero. Barring extenuating circumstances, makeup quizzes must be taken before the next class meeting.

Important Dates	
Thursday, September 21	Quiz 1
Thursday, October 26	Quiz 2
Thursday, November 30	Quiz 3
Week of December 11	Final Exam

You will have the opportunity to increase points earned on quizzes by correcting your quizzes once they are handed back to you. **Your lowest quiz grade will be averaged with all of your corrected quiz grades, and this average will replace your lowest quiz grade.** If you only correct one quiz, then the lowest original quiz and the corrected quiz will each be given 50% weight. If you correct all three quizzes, then the lowest original quiz and all three corrected quizzes will be given 25% weight. Quiz corrections are due the class period after the quiz is handed back. Late corrections will not be accepted. Please turn in a corrected quiz (correct only the questions on which you lost points) AND the original quiz. I will post a blank quiz for corrections.

If you feel your original quiz has been graded incorrectly, please submit your issue in writing either on the front of the quiz or on a separate sheet of paper attached to the quiz when you hand in corrections. Please note the question number you are inquiring about and what you think is wrong. If you do not hand in corrections, you have one week after the original quiz has been returned to submit any issues to me. After that, no grade changes will be made.



Final Exam

The final exam will be cumulative. Substantial improvement shown on the final exam relative to quiz performance may be factored into your final grade. You must take the final exam at the university-scheduled time. It is my policy not to provide the day and time of the final exam. It is your responsibility to find the day and time online AND to confirm it with a classmate. The link to UTA's final exam schedule: <http://www.uta.edu/records/calendars/final-exams.php>

Problem Sets (Homework)

Most problem sets will require you to manipulate datasets using Excel, a statistical package called Stata, or the data visualization software Tableau. All three programs have been installed in our classroom for your use, and some class time will be allotted to completing the computer portion of problem sets. Please see the lab schedule to see when it is open to you outside of class time. You may also choose to purchase Stata at a reduced rate, but this is not required. To purchase Stata, visit the following website:

<https://www.stata.com/order/new/edu/gradplans/campus-gradplan/>

While problem sets are not officially graded, parts of them are graded indirectly through the quizzes. You are required to bring all output from current problem sets to the next quiz. This output will allow you to answer some quiz questions. Therefore, failure to complete these exercises will jeopardize your chance of passing the quiz. **You may work with others on your homework assignments, but you must do your own work and have your own computer output reflecting your own work.** Note that some homework problems do not require use of a statistical package. However, completing these will also help you answer some quiz questions. Answers to all homework problems will be provided to you so that you can check your answers, but code will not be provided. When turning in your quiz, please also turn in your computer output. **ONLY computer files containing output from your commands are permitted during quizzes; answers to homework problems and notes to yourself on how to work homework problems are NOT permitted.**

Course Schedule

The below schedule includes the topics to be covered, the readings that go along with the topics, and important dates. You can also find this schedule as a separate document on our course HomePage in Blackboard.

ECON 3318, Fall 2017					
Class	Day	Date	Topic	Hilmer & Hilmer	Wooldridge
1	Thursday	Aug 24	Welcome	Ch 1, 3 (on your own)	Ch 1, Append. A, B, C (on your own)
2-8	Tues - Tues	Aug 29 - Sept 19	The Simple Regression Model	Ch 4, 7.4, 8.1	Ch 2
9	Thursday	Sept 21	Quiz 1		
10-12	Tues - Tues	Sept 26 - Oct 3	Multiple Regression: Estimation	Ch 6.0-6.4	Ch 3
13-16	Thurs - Tues	Oct 5 - Oct 17	Multiple Regression: Inference	Ch 5.0-5.7, 8.8	Ch 4
17-18	Thurs - Tues	Oct 19 - Oct 24	Multiple Regression: Further Issues	Ch 6.5, 7.2-7.3, 7.5, 9.0-9.1, p 275-280	Ch 6.2-6.3; 8.1-8.3
19	Thursday	Oct 26	Quiz 2		
20-22	Tues - Tues	Oct 31 - Nov 7	Dummy Variables	Ch 7.1	Ch 7.1-7.4
23-24	Thurs - Tues	Nov 9 - Nov 14	TBD		
25-26	Thurs - Tues	Nov 16 - Nov 21	Data Visualization		
	Thursday	Nov 23	Thanksgiving Break		
27	Tuesday	Nov 28	Excel Problem Solver		
28	Thursday	Nov 30	Quiz 3		
29	Tuesday	Dec 5	Excel Problem Solver		

Expectations

Treat this syllabus as a contract that you have “signed” by enrolling in the course. You are responsible for remembering all deadlines. I reserve the right to make changes to the syllabus during the semester, although I will try not to do so. Any changes will be communicated to you via email and/or during class. You are responsible for being aware of these changes. Please refrain from asking me questions that can be answered by reading this document.

I recommend printing the PowerPoint slides (several to a page) and bringing them to class to take notes on. However, please realize that the slides do not include everything covered in class and are a poor substitute for taking your own notes. You should read the relevant sections of the text listed in the course outline as many times as needed to feel that you have a grasp on the material. This class requires that you master many skills, so keeping up with the material takes time, thought, and effort. It does not lend itself to all-night cram sessions. However, if you are willing to work hard understanding the concepts, you are likely to succeed in this course. A generally-accepted rule of thumb is that for every hour spent in class, you should spend approximately two to three hours outside of class studying. I want everyone to do well, and everyone is given that opportunity. ***Please ask questions in class and come see me during office hours (or schedule and appointment) if you need further clarification.*** I do not know if you don’t understand something unless you tell me!



Communication

I will post documents such as PowerPoint slides, Problem Sets, datasets, and old quizzes on Blackboard. I will also email you, ***so please check your university-provided email account daily!*** Please feel free to email me at the address listed above. I check email regularly most Mondays-Fridays, but I cannot guarantee a quick response over the weekend or late at night. Please take advantage of my office hours, or set up an appointment with me!

Email is definitely the best way to reach me. If you try to reach me on my office phone, please do not leave a message and expect me to get back to you in a timely manner. I do not check phone messages nearly as frequently as email, as the telephone does not visually indicate that a message is waiting for me. However, feel free to call me, and I will happily talk to you if I am in the office. Phone appointments can be set up with me in advance if a question can't be resolved by email and we are unable to connect in person.

***You can learn
more about
me and my
research
[HERE!](#)***

Attendance

At UTA, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students' academic performance, which includes establishing course-specific policies on attendance. In this course, attendance will not be a formal part of your assessment. However, I reserve the right to take attendance and use that information to give extra credit or when determining whether to "round up" when determining final grades.

Thus, you are strongly encouraged to attend every class and arrive to class ON TIME (I understand there are legitimate reasons for being late, so please enter QUIETLY if you cannot help being late). You are also expected to silence your cell phone. **You are responsible for all material covered in class whether you are present or not (including material not covered in the text). If you miss a class, you should get notes from a classmate and review them BEFORE coming to me for help on that particular topic.** I will not provide you with class notes beyond what is contained in the PowerPoint slides and what is posted on Blackboard.

However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients "begin attendance in a course." UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Blackboard. This date is reported to the Department of Education for federal financial aid recipients.

Academic Integrity

All students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

I pledge, on my honor, to uphold UT Arlington's tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.

I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.

According to the UT System Regents' Rule 50101, §2.2, "Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts." Per UT System Regents' Rule 50101, §2.2, suspected violations of university's standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student's suspension or expulsion from the University.

More specifically related to this course, academic dishonesty includes communicating with other students during quizzes and exams; referencing books, notes or "cheat sheets" during quizzes and exams (except when authorized); copying someone else's work when correcting quizzes; representing someone else's computer output as your own; and fabricating data or regression results. Violators will automatically receive a grade of zero on the assignment or exam. Anytime a penalty is imposed the matter must be reported to the Office of Student Conduct.

Administrative Policies

Drop Policy

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Drops can continue through **November 1 for Fall 2017. Note: I am unable to sign a drop form after the official deadline.** It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/ao/fao/>).

Student Feedback Survey

At the end of each term, students enrolled in classes categorized as lecture, seminar, or laboratory shall be directed to complete a Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student's feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington's effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>.

Final Review Week

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabus. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

Student Support Services

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

The IDEAS Center (2nd Floor of Central Library) offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

Electronic Communication

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding

financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

Disability Accommodations

UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA)*, *The Americans with Disabilities Amendments Act (ADAAA)*, and *Section 504 of the Rehabilitation Act*. All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a **letter certified** by the Office for Students with Disabilities (OSD). Only those students who have officially documented a need for an accommodation will have their request honored. Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

The Office for Students with Disabilities, (OSD) www.uta.edu/disability or calling 817-272-3364. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at www.uta.edu/disability.

Counseling and Psychological Services, (CAPS) www.uta.edu/caps/ or calling 817-272-3671 is also available to all students to help increase their understanding of personal issues, address mental and behavioral health problems and make positive changes in their lives.

Non-Discrimination Policy

The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit www.uta.edu/eos.

Title IX Policy

The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. For information regarding Title IX, visit www.uta.edu/titleIX or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or jmhood@uta.edu.

Campus Carry

Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

Emergency Exit Procedures

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members

and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Inclement Weather Policy

In the event that the university cancels class due to inclement weather, any exam scheduled that day will automatically be scheduled during the next class period. Please check your university-provided email account regularly if bad weather is in the area.

Emergency Phone Numbers:
***In case of an on-campus emergency,
call the UT Arlington Police Department at
817-272-3003 (non-campus phone), 2-3003 (campus phone).
You may also dial 911.***