ECON 4870, MULTIVARIATE REGRESSION ANALYSIS
UNIVERSITY OF NORTH TEXAS, FALL 2014

Instructor & Office Location: Dr. Margie Tieslau; 220 E, Hickory Hall
Phone Number & email: 940-565-3442; tieslau@unt.edu
Class Time & Location: Tuesdays, 18.30 – 21.20 (6:30 PM – 9:20 PM), WH 115
Dr. Tieslau’s Office Hours: Mondays & Tuesdays: 13.00 – 16.00 (1 PM – 4 PM)
in Hickory Hall 220 E
Mondays: 17.30 – 18.30 (5:30 PM – 6:30 PM)
in the vicinity of Gateway 141
Tuesdays: 17.30 – 18.30 (5:30 PM – 6:30 PM)
in the vicinity of Wooten Hall 115

Teaching Assistant for this Class: Ms. Holly Parmelee
TA’s Office & Office Hours:

COURSE DESCRIPTION/OBJECTIVES:
This course will provide sound theoretical foundations of introductory-level econometrics while using real-world applied examples to illustrate theoretical concepts. In particular, students will learn how to pose relevant research questions, set up and estimate regression models that address these questions, and explain their findings to a diverse audience. Particular attention will be given to data and regression models commonly found in the fields of accounting, economics, finance, political science and sociology. Please note that this is NOT a class in which memorization will be useful. Successful students will learn (and enhance their) reasoning skills, problem-solving techniques, and critical thinking abilities. If you are the type of person who prefers classes that only require you to memorize facts and figures, then this is not the class for you. But if you want to be challenged and learn how to think, analyze, and reason, then you are in for a treat! But be forewarned: this class will require a tremendous amount of work on your part.

PREREQUISITES:
In order to be prepared for this class you must have earned grades of "B" or better in ECON 4630 (Research Methods), MATH 3680 (Applied Statistics), MATH 4650 (Statistics), or DSCI 3710 (Business Statistical Analysis). Some of the topics with which you already should be familiar are: algebra; joint probability; conditional probability; frequency distributions; probability density functions; cumulative distribution functions; the normal and standard normal distributions; the t-distribution; the F-distribution; the Chi-square distribution; one-tailed and two-tailed hypothesis tests; confidence intervals; p-values; and slopes.

TEXT:
The text for this course is Introductory Econometrics: A Modern Approach, 5th edition (2013), by Jeffrey M. Wooldridge (South-Western Cengage Learning, publishers). A copy of this text is on reserve at Willis Library In addition, it is perfectly acceptable to use the 4th edition of this textbook (2009). I also have provided a course packet for you; you are required to bring this packet to class every night.
GRADES:
Barring unforeseen events, grades for the course will be based on the total points accumulated on a midterm exam, eight quizzes, and a final exam, with the following anticipated point distribution:

- Quizzes: 80 points (10 points each)
- Midterm Exam: 100 points
- Final exam: 100 points
- Total: 280

Individual exams and quizzes will NOT be scaled. The total points accumulated at the end of the semester will be scaled so as to ensure a reasonable class average. Final grades will be assigned based on each student’s scaled point total.

Midterm: The midterm exam is scheduled for October 14th and you will have the first 2 hours of the class to complete it (no lecture will follow the midterm exam). A formula sheet will be provided. There will be NO MAKE-UPS for a missed midterm exam; if you miss the exam with a valid University-approved excuse, the weight will be redistributed to your final exam.

Quizzes: Quizzes will be unannounced and might be given on any night at any time. Quizzes will be short (approximately 10 minutes) and worth 10-points each. On any given night, any and all material that has been covered prior to that night is fair game for quiz material. Therefore, you should study all of the material that is covered in each class PRIOR TO coming to the next class. There will be NO MAKE-UPS for missed quizzes. If more than 8 quizzes are given throughout the semester, only your highest 8 will be counted.

Final Exam: The final exam is scheduled for the Tuesday night of finals week, December 9th and you will have the first 2 hours of the class to complete it. A formula sheet will be provided. Except for those with official University-approved excuses, everyone will be required to take the final exam at the scheduled time and there will be NO MAKE-UPS for a missed final exam.

CALCULATOR POLICY:
You will NOT be permitted to bring a calculator to the exams or quizzes. A basic calculator will be provided for you and this is the only calculator that you will be permitted to use.

EMAIL POLICY:
If I need to contact you to convey class-related information, in keeping with University policy, I ONLY will use your official UNT email address. Thus, it is YOUR responsibility to check your UNT email on a regular basis. If you send an email to me, please only use your official UNT email account. In addition, I typically receive a large volume of emails each day and so it is not possible for me to read all of my e-mails every day. Therefore, if you send me an email, please keep in mind that I may not get to read it until several days after you send it. If you want to maximize the probability that I will read and respond to your e-mail in a timely manner, you should do the following: (1.) use the phrase "ECON 5640" in the subject heading; (2.) make sure your FULL NAME appears in the "from" line; (3.) sign your e-mail using your full name.
CLASSROOM POLICY:
During class time (including exams) students are forbidden to have or use electronic devices such as laptop computers, tablets, iPads and the like, BlackBerries, cell phones, Bluetooth devices, or anything that uses headphones, earphones, ear buds or the like (except in special cases where students have verified disabilities that require such devices).

ATTENDANCE POLICY:
Please note that even though I will NOT take attendance, class attendance is not optional. If you miss a class it is your responsibility to learn the material that was covered on that day. I will NOT provide a copy of the missed notes.

INTERNET RESOURCES:
Be forewarned: If you miss class and you would like to use the internet as a source to learn the missed material, you are strongly cautioned against doing so. There is a wealth of information on the internet that is NOT correct, even though it appears to be. If you collect information from sources other than class lecture and the Wooldridge text, this information turns might be incorrect and it might cost you points on a quiz or exam.

ACCEPTABLE STUDENT BEHAVIOR:
Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at www.unt.edu/csrr.

A PREVIEW OF WHAT THIS CLASS IS ABOUT:
This class will teach you the mathematical and statistical techniques needed to analyze and quantify relationships that exist between variables in the real world. Some examples will be discussed now.
## TENTATIVE COURSE OUTLINE:

<table>
<thead>
<tr>
<th>DATE:</th>
<th>SUBJECT:</th>
<th>READINGS*:</th>
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<tbody>
<tr>
<td>August 26</td>
<td>Review syllabus &amp; course introduction; Topic 1, part 1: Matrix Algebra &amp; Statistical Review</td>
<td>Chapter 1, Appendices A.1, A.2, B, C.1 – C.3, C.5, C.7, D.1 &amp; D.2</td>
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<tr>
<td>September 9</td>
<td>Topic 2: Simple Linear Regression</td>
<td>Sections 2.1 – 2.3 &amp; 2.5, and Appendix 2A</td>
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<td>September 16</td>
<td>Topic 3: Multiple Regression</td>
<td>Sections 3.1 – 3.3 &amp; 3.5</td>
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<td>September 23</td>
<td>Topic 4, Part 1: Single Restriction Hypothesis Testing</td>
<td>Chapter 4 and Appendix C.6</td>
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<tr>
<td>September 30</td>
<td>Topic 4, Part 2: Multiple Restriction Hypothesis Testing</td>
<td>Chapter 4 and Appendix C.6</td>
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<tr>
<td>October 7</td>
<td>Finish any left-over material and question &amp; answer session for midterm</td>
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<td>OCTOBER 14</td>
<td>MIDTERM EXAM: Topics 1 through 4</td>
<td>All material listed above.</td>
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<td>October 21</td>
<td>go over midterm exam; Topic 5: Non-Linear Regression</td>
<td>Sections 2.4 &amp; 3.4, Chapter 6, Appendices A.3, A.4 &amp; C.4, and Appendix D.3</td>
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<td>October 28</td>
<td>Topic 7: Heteroskedasticity</td>
<td>Sections 8.1 – 8.4, 10.1 – 10.3, and 12.1 – 12.3</td>
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<td>November 4</td>
<td>Topic 9, Part 1: Intercept Dummy Variables</td>
<td>Chapter 7</td>
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<tr>
<td>November 11</td>
<td>Topic 9, Part 2: Slope Dummy Variables</td>
<td>Chapter 7</td>
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<td>November 18</td>
<td>Applications</td>
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<td>November 25</td>
<td>Reading day</td>
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<td>December 2</td>
<td>Question &amp; answer session for final exam</td>
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<tr>
<td>DECEMBER 9</td>
<td>FINAL EXAM: Topics 1 through 9</td>
<td>All material listed above.</td>
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*All readings refer to both the 4th and 5th edition of Wooldridge's textbook.*
Cheating and Plagiarism

Cheating of any kind is absolutely forbidden in this class. If you engage in any form of cheating, no matter how innocent it may seem to you, I will prosecute you to the fullest extent of the law.

The UNT Department of Economics adheres to the University’s Policy on Cheating and Plagiarism. To view the complete policy go to www.vpaa.unt.edu

**Cheating:** The use of unauthorized assistance in an academic exercise, including but not limited to:

1. use of any unauthorized assistance to take exams, tests, quizzes or other assessments;
2. dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems or carrying out other assignments;
3. acquisition, without permission, of tests, notes or other academic materials belonging to a faculty or staff member of the University;
4. dual submission of a paper or project, or re-submission of a paper or project to a different class without express permission from the instructor;
5. any other act designed to give a student an unfair advantage on an academic assignment.

**Plagiarism:** Use of another’s thoughts or words without proper attribution in any academic exercise, regardless of the student’s intent, including but not limited to:

1. the knowing or negligent use by paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgement or citation.
2. the knowing or negligent unacknowledged use of materials prepared by another person or by an agency engaged in selling term papers or other academic materials.

**Disability Accommodation**

If you have a disability for which you will require accommodation under the terms of the Americans with Disabilities Act or Section 504 of the Rehabilitation Act of 1973, please discuss your needs with me after class or at office hours.

The Economics Department cooperates with the Office of Disability Accommodation (ODA) to make reasonable accommodations for qualified students with disabilities. If you have not registered with ODA, we encourage you to do so. Please present your written accommodation request on or before the 4th class day.
GENERAL INFORMATION

1. Come to class EVERY DAY and come on time.

2. If you have to come late, do so quietly.

3. Plan to be here the full 3 hours every night (including the first night of class).

4. We will take a break half way through the class; if you need to step out at some other time, feel free to do so, just do so quietly (try chewing gum if you are falling asleep).

5. Bring the course packet to class every day.

6. Do the "practice" exercises in the course packet after EVERY class.

7. Ask questions at any time.

8. DURING CLASS, YOU ARE NOT PERMITTED TO USE:
   - LAPTOPS, TABLETS
   - CELL PHONES, SMART PHONES
   - MP3 PLAYERS
   - OTHER ELECTRONIC DEVICES
   - OR ANYTHING THAT MAKES USE OF EARPHONES OR EAR BUDS