Course Overview and Objectives:

This course covers advanced quantitative approaches to the study of management and program evaluation. The first part of the course focuses on simple linear regression and the second part of the course focuses on multiple least squares regression analysis. Students should view this course as an opportunity to strengthen their analytical capacities and problem-solving skills.

Perquisite: PADM 5500 Research Method I.

Specifically, by the end of the semester you should be able to:
- Build upon knowledge gained in 5500 to give students the tools to be an intelligent consumer of statistical analysis, results and processes.
- Provide students a strong background in a variety of statistical analysis methods as well as the capacity to discuss important concepts when analyzing the data.
- To be comfortable with some necessary skills (such as excel, SPSS & Stata) to apply quantitative methods to analyze data and write program evaluation proposal.
- Ensure students are proficient in some advanced analytical techniques that will fully prepare them for data analysis or program analysis tasks required in the public, private, and non-profit sector.

Textbooks and Other Readings

(2) Other assigned readings can be found through UNT library or will be posted on UNT Canvas. It is the student’s responsibility to locate assigned articles and read all materials prior to class.

Software

This course will need to use Excel, SPSS and Stata. The software is available in the student computer lab and Room 270 in the Chilton Hall.

Storage Media

You will need to have a means for saving your data and work related to the computer-based lab assignments. A 1G thumb drive should provide plenty of storage.

Course Structure, Requirements and Grading:

This course has two primary components: pre-class preparation (reading and assignment) and in class meetings. Prior to each class meeting, you should read the required chapters or reading materials, outline key terms and concepts, complete required assignments. I will assume that you will spend time for preparations such as reading textbooks and completing assignments before each class meeting.

In class sessions, we will focus on labs. I will use the time in class to answer any questions you may have when you read course materials and conduct the project. In some classes, I will give you lectures. As such, the class sessions are designated to clarify, integrate and strengthen your knowledge of the materials and data analysis capacities.

There are three requirements for the course:

1) Examinations (a total weight of 45%): There will be two exams. Exam 1 accounts for 20 % and exam 2 accounts for 25%. More information about the exams will be provided in the review sessions.

2) Final project (a total weight of 50%): Students are required to complete an individual final project. This final project will focus on the application of a quantitative method/technique covered in this course towards addressing a question of interest of the student. The project is comprised of four parts: (1) project proposal, (2) identification/creation and cleaning of a dataset and key (3) analysis and written report, and (4) oral presentation. More information about this project is found on page 8 of this syllabus.

3) Class participation and meetings (5%): Most of the students are active learners and learn best when they can actively join the lab. The more you practice in the lab, the quicker you will feel more conformable with these approaches and analyses. Work steady and keep up. Of course, personal and family circumstances can require class absence. Students should contact the professor about such absences before the class. Please be professional.
Your final grades will be based on the following formula:

Exam 1 20%
Exam 2 25%
Final project 50%
Proposal (10%)
Dataset and code (10%)
Written report (20%)
Presentation (10%)
Class participation and meetings 5%
TOTAL PERCENT 100%

Final grades are based on total percent received in the course, which is the same as a weighted average if all assignments were grades on a scale of 0 - 100. Please note that I do not give letter grades on individual assignments or exams. I give a numerical score for each course element during the semester and assign letter grades based on a weighted average of the numerical scores. I also reserve the right to base final grades on a “curve” rather than use the standard scale below.

<table>
<thead>
<tr>
<th>Weighted numerical score of</th>
<th>Letter grade in the course</th>
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<tbody>
<tr>
<td>90.00% or above</td>
<td>A</td>
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<tr>
<td>80.00 % to 89.99%</td>
<td>B</td>
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<tr>
<td>70.00 % to 79.99 %</td>
<td>C</td>
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<tr>
<td>60.00 % to 69.99 %</td>
<td>D</td>
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<tr>
<td>Less than 59.99 %</td>
<td>F</td>
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Course Expectations

Class participation and attendance
Most of the students are active learners and learn best when they can actively engage and discuss the material. The more you participate, the more engaging and interesting the class will be. Your opinions and experiences matter so please share with the class. Students who pose questions and participate in the discussion sharpen their critical thinking and analytical skills. Students benefit from hearing the discussion and questions of other students. As a result, class discussion suffers in your absence. Of course, personal and family circumstances can require class absence. Students should contact the professor about such absences before the class (email is preferred). Please be professional.

Incompletes, Late Homework, and Extra Work
In most cases, I do not allow students to do extra work (i.e. an additional paper) to improve their grade in the course. This is not fair to other students who are not given the same opportunity. Late homework will be penalized unless the student has a legitimate excuse or crisis causing the delay in completing work (i.e. illness, family death). Also, I will only grant incompletes or extension to students who have legitimate excuses or crises and who make requests prior to the end of the course.
You will lose 5% of your total score if you submit within 24 hours after the deadline. You will lose 10% of your total score if you submit between 24 hours and 48 hours after the deadline. Your assignment will not be accepted beyond 48 hours of the deadline with no legitimate reasons.

**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 Dean of Students 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.deanofstudents.unt.edu](http://www.deanofstudents.unt.edu)

**Canvas**
Canvas is a primary source of teaching and reading materials, and means of communication between you and the instructor for this course. The URL for our Canvas log in page is: [https://unt.instructure.com/](https://unt.instructure.com/). You will find the course syllabus, additional required readings, assignments, and lecture notes on the Canvas site. You will submit your assignments and exams to the assignment on the Canvas. More importantly, students are expected to check Canvas and their UNT emails frequently for course announcements and materials. Plus, all new students should get a UNT computer account the first week of the class. If you need support or have any related questions, you can find information posted online here [https://clear.unt.edu/services/lms-support](https://clear.unt.edu/services/lms-support).

**Original Work and Plagiarism**
Unless explicitly assigned to work in groups, all students are expected to work independently. The project, exams, and exercises should be the student’s own work. Working together where it is clearly indicated is entirely appropriate, but if you are preparing a written product that will be submitted for evaluation, that product is expected to be the result of your work alone. Where questionable situations arise, always ask the instructor for clarification. Also, students must cite their sources where relevant, and plagiarism will be not tolerated and will be penalized severely at UNT. Please read MPA handbook for more information. You could also find information from the following website that defines academic dishonesty and available penalties: [https://policy.unt.edu/sites/default/files/untpolicy/pdf/7-Student_Affairs-Academic_Integrity.pdf](https://policy.unt.edu/sites/default/files/untpolicy/pdf/7-Student_Affairs-Academic_Integrity.pdf)

**The Learning Environment**
The instructor is strongly committed to maintaining a positive learning environment based on open communication, mutual respect, and non-discrimination. **Please respect your instructor and your fellow students.** Our University does not discriminate on the basis of race, gender, age, disability, veteran status, religion, sexual orientation, color, or national origin. Any suggestions as to how to further such an environment will be appreciated and given serious consideration.
Policy on Cell Phone and Laptop in the Classroom
Students are allowed to take notes on personal laptop computers and computers in the classroom to enhance the learning process, but they should not activate their internet browsers during class or use computers for non-academic purposes (as this diverts attention from the lecture/discussion for both the student using it and others nearby). Students should also avoid using cell phones to search the Internet or text while class is in session. Please silence your phones.

Exceptions to this policy will be at the discretion of the faculty only and may occur if searching the Internet is necessary to find additional information or facts related to the subject being covered on that particular day.

Participation by Students with Disabilities
The Department of Public Administration, in cooperation with the Office of Disability Access (ODA), complies with the Americans with Disabilities Act in making reasonable accommodations for qualified students with disabilities.

Students with disabilities should log into a new database called Accessible Information Management (or AIM). AIM is an online system where students can log in and access ODA services using their UNT log in credentials. It is the student’s responsibility to request your Letters of Accommodation ONLINE, and then ODA will mail your LOAs to your instructor. Go to https://augusta.accessiblelearning.com/UNT/ to log into AIM.

Student Perceptions of Teaching (SPOT)
SPOT is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. Once the SPOT becomes available via your my.unt.edu portal, please complete the survey as it will help in every effort to improve the instructor’s teaching skills.

Sexual Discrimination, Harassment, and Assault
UNT is committed to providing an environment free of all forms of discrimination and sexual harassment, including sexual assault, domestic violence, dating violence, and stalking. If you (or someone you know) has experienced or experiences any of these acts of aggression, please know that you are not alone. The federal Title IX law makes it clear that violence and harassment based on sex and gender are Civil Rights offenses. UNT has staff members trained to support you in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, helping with legal protective orders, and more.
# Course Outline and Schedule

<table>
<thead>
<tr>
<th>Date/Week</th>
<th>Course Outline</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Week 1</td>
<td>Introduction</td>
<td>Review</td>
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<tr>
<td>08/27</td>
<td>Workshop: Research Data</td>
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<td></td>
<td>Reading</td>
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<td>Week 2</td>
<td>Descriptive Statistics</td>
<td>Project Ideas</td>
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<tr>
<td>09/03</td>
<td>Workshop: descriptive statistics and graphics</td>
<td>Discussion</td>
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<td></td>
<td>Reading</td>
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<td></td>
<td>Eller et al. (2018) Chapters 13, &amp; 14</td>
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<tr>
<td>Week 3</td>
<td>Hypothesis</td>
<td>Data Check Up</td>
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<tr>
<td>09/10</td>
<td>Reading</td>
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<td></td>
<td>Eller et al. (2018) Chapters 3, &amp; 15</td>
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<tr>
<td>Week 4</td>
<td>Simple Linear Regression I</td>
<td>Proposal Design</td>
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<tr>
<td>09/17</td>
<td>Reading</td>
<td>Set Up</td>
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<td></td>
<td>Eller et al. (2018) Chapter 17</td>
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| Week 5    | Simple Linear Regression II | *Proposal  
| 09/24     | Reading        | Due (09/23) |
|          | UCLA Chapters 1.0-1.3 |  |
| Week 6    | Quantitative Analysis in PA Research | Feedback on Proposal |
| 10/01     | Roundtable Discussion |  |
|          | Exam Review |  |
| Week 7    | Exam I        |          |
| 10/08     |              |          |
| Week 8    | Multiple Least Square Regression Analysis I | Assumptions about OLS |
| 10/15     | Reading       |          |
|          | Eller et al. (2018) Chapter 18 |  |
| Week 9    | Multiple Least Square Regression Analysis II | Tests and Results |
| 10/22     | Reading       |          |
|          | UCLA Chapters 1.4 |  |
| Week 10   | Lab: Regression Analysis | *Data and Code  
<p>| 10/29     |              | Due (10/21) |
| Week 11   | Logistic Regression and Interpretation |  |
| 11/05     | Reading       |          |
|          | UCLA Logistic regression |  |
|          | <a href="https://stats.idre.ucla.edu/stata/dae/logistic-regression/">https://stats.idre.ucla.edu/stata/dae/logistic-regression/</a> |  |</p>
<table>
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<tr>
<th>Week 12</th>
<th>Case Study</th>
<th>Feedback on Data and Key</th>
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<tr>
<td>11/12</td>
<td>Reading</td>
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<td></td>
<td>Eller et al. (2018) Chapter 8</td>
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<tr>
<td>Week 13</td>
<td>Mixed Research in PA</td>
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<tr>
<td>11/19</td>
<td>Reading</td>
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<td>Eller et al. (2018) Chapter 20</td>
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<td>Week 14</td>
<td>Happy Thanksgiving.</td>
<td>*Written Report Due (11/25)</td>
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<td>11/26</td>
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<tr>
<td>Week 15</td>
<td>Presentation</td>
<td>*PPT Slides Due (12/02)</td>
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<tr>
<td>12/03</td>
<td>Reading</td>
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<td></td>
<td>Eller et al. (2018) Chapter 22</td>
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<td></td>
<td>Exam Review</td>
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<tr>
<td>Week 16</td>
<td>Exam II</td>
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<tr>
<td>12/10</td>
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Note: The schedule and assignments may be subject to change.
Final Project Requirements and Guidelines

Your final project will focus on the application of the regression methods and techniques covered in this course on a data set and research questions of interest to the student. The only restriction on project topic is that it needs to be a topic related to Public Administration. This project is an opportunity for the student to gain experience formulating a short research/project proposal, collecting primary or secondary data, data coding and analysis, writing up research results, and presenting those findings to their peers. The regression methods students may use for this project include multiple regression or logistic regression.

This project will include four deliverables:
(1) Proposal, (2) Clean Data Set and Codes, (3) Written Report, and (4) Professional Presentation.

The deliverable dates are as follows:
1. Proposal – 09/23
2. Clean Data Set and Key – 10/21.
3. Written Report – 11/25
4. Project Presentation – 12/02

All paper documents and slides should be submitted to Canvas by 6:00pm on the due day. Otherwise, late policy will apply except for some legitimate reasons. Please email your instructor (yu.shi@unt.edu) to request for extension, if necessary.

Project Proposal

The project proposal is a 1-2 page (single-spaced) description of what you plan to do for your project. The proposal is due 09/23. In this proposal, you should include the following:

1. A description and justification of your project question. (What is your research question/s and why is it important/interesting?)
2. A description of your data (is it primary or secondary data? Where will you get it?)
3. A description of the quantitative methods you intend to use and how this will help you to answer your research question.
4. A description of your hypotheses and expected results. (It is expected that the relationship between x and y will yield these results……)
5. A timeline for completing this project. (What are your project benchmarks and when do you plan to complete it by?)

Students are highly encouraged to meet/correspond with the instructor about their project plans. Because the instructor approves all project topics, starting this dialog prior to submitting the proposal is to the advantage to the student in order to ensure you have the most time possible to complete the project portion of this assignment.

Clean Data Set and Key

Gathering data is an important task analyst undergo in order to conduct statistical analyses. Data can be gathered from a variety of sources and there are many data depository sites that you can utilize to help you complete your projects. Students may use primary data (data that you gather via observation or survey) or
secondary data (data gathered by others e.g., Census data etc.)

Students will be required to submit a clean data set to the instructor for approval no later than 6pm 10/21. The dataset should include only the variables you are including in your data analysis.

In addition, a key should be provided indicating to the instructor a description of the variables as well as identification of your dependent and independent variables. You must have a minimum of 30 observations (n= 30). Please do not wait until the last minute to find /collect data.

Written Report

Students are required to submit a final report in which they will describe their research project. The paper should be between 10-12 pages double spaced 12 pt. Times New Roman (2-3 pages can be tables/figures. References are not included in the page count). The format of the paper should be consistent with those used in scientific articles (Consult major journals for examples). The paper is due 11/25.

The structure of this paper should be organized as follows:

1. 150-200 word abstract. This abstract should include a problem statement, your project question/s, brief description of data analysis techniques, and your findings.

2. Introduction and Literature Review.
   a. Problem statement (what are the informational/project needs relating to your topic? What have other studies examined/found?)
   b. Project questions (This study will examine the relationship between x, y, and z.)
   c. State your hypotheses.

   a. Describe your data
      i. What is it?
      ii. Where did it come from/who collected it?
      iii. How was the data collected?
      iv. Provide appropriate descriptive statistics (mean, median, etc.)
   b. Describe the methods you are using.
      i. What data analysis techniques are you using? Why?
      ii. Identify variables (label dependent and independent as appropriate)
      iii. Discuss steps and tests taken in the analysis.

4. Results
   a. Present the results of the regression analysis.
   b. Provide tables/charts/plots/graphs (if appropriate)

5. Discussion/Conclusion
   a. Discuss your results.
      i. What did you find?
ii. Is this what you expected? (Refer back to hypothesis)
iii. Did you answer your question or did new questions arise?
iv. What can you conclude from your analysis?
v. Were there any limitations to your study?

b. Future directions
   i. What should future project examine?
   ii. What are the next logical steps in this project?

6. References
   a. List all references quoted in the text and at the end of the document. The references should be used describing your project area/background justification as well as the methodology.
   b. APA reference style

**A note about references:** The paper should contain a minimum 7 references, 5 of which should be from journal articles, books, or book chapters. Scholar Google is a great place to start searching journal articles as well as gather information and examples of what type of research has been done in your area of interest. You can use this information not only to help you formulate your project questions, but to find examples of how the methods covered in this class and that have been applied in other studies.

Professional Presentation

At the conclusion of this project, students will be required to give a professional presentation highlighting their project question and findings. Each presentation will be approximately 15-20 minutes in length and should generally follow the format of the written paper. I will provide further guidance about presentation expectations and a presentation grading rubric as we approach presentation dates. The project slide is due by or on 12/02 and the presentations are scheduled for 12/03. Students are expected to attend the presentation sessions.

Project Grades

Your final grade for this project will consist of four components: (1) Proposal, (2) Dataset and code, (3) Written report, and (3) Professional presentation.

Proposal: 10%
Dataset and Key: 10%
Written Report: 20%
Presentation: 10%
PACS Computing Center (Chilton Hall 270, 274, 388)

Student Computers: Currently enrolled students may login to the technology classroom student computers using their EUID and password. SPSS and SAS are installed on all student computers.

Disability Availability: Two students’ computers in each room have JAWS software for the visually impaired. The stations are higher than the other student stations to accommodate wheelchairs. A student who is registered with the UNT Office of Disability Accommodation that needs other accommodations should call 950-565-3419 or e-mail thames@unt.edu

The classroom doors are locked and alarmed when not in use. The rooms are unlocked 10 minutes before classes begin. There are 2 surveillance cameras in each room.

Students may not stay in the lab after class. When class is dismissed, the instructor must ensure the students leave.

Students are not allowed to have food or drinks in Chilton 270, 274, or 388. Instructors are responsible for ensuring students follow this rule. Instructors may have a drink with a lid.

The “No Food or Drink” rule applies to all classes, including 3-hour and weekend courses.

Maintenance: The Chilton Hall computer labs are cleaned and sanitized nightly by lab assistants.

Lost & Found: Items found in the technology classroom are held in the operations manager’s office in Chilton 255. A photo id is required to claim items.

Questions or Comments may be directed to: Jackie Thames, Operations Manager, 940-565-3419, thames@unt.edu.