Course Description & Expected Learning Outcomes

Many novice educational researchers think they must collect their own data to be considered of doing “real” scholarly research. Experienced researchers, however, understand the value and utilities of existing data, or so called secondary data. The reality is that there are many secondary data available for researchers to use. The goal of this course is to help students learn the skills needed to conduct quantitative research in education using secondary data. Students will learn the sources of publically available educational secondary data, how to retrieve, clean up, and prepare the data for analysis, and how to analyze secondary data. Students will also learn to design, conduct, and write a quantitative study using secondary data. This course will be useful and applicable to anyone who would like to use existing quantitative data for dissertation research, policy analysis, assessment, or studies that would yield useful information to improve educational theories and practices.

This course is a laboratory course and most of class time will be used to practice data analysis techniques. We will use IBM SPSS Statistics (aka SPSS) for all our data analysis activities. You are encouraged to have SPSS installed in your computer and bring it to the class. SPSS Statistics Premium GradPack is available at IBM website http://goo.gl/UyJFF. As an alternative, you can use UNT College of Education computer lab to complete your assignments.

At the end of the semester, a student of this course is expected to:

1. Demonstrate a thorough understanding of the differences between primary and secondary data and the benefits and limitations of using secondary data
2. Become knowledgeable of commonly used public secondary data in education
3. Show proficiency in retrieve secondary data and prepare the data for analysis
4. Show proficiency in constructing well-crafted quantitative research questions
5. Show proficiency in designing a quantitative research using secondary data
6. Show proficiency in conducting statistical analyses using SPSS
7. Critically think through the process of selecting a research topic, conducting a literature review, constructing research questions, and analyzing quantitative secondary data to answer research questions
8. Demonstrate effectiveness in writing and orally presenting a quantitative study
9. Demonstrate professionalism and ethical behaviors as required to be a leader and scholar in higher education and other professional fields
10. Be an active and responsible learner and a fervent participant in the class
11. Correctly follow the current APA Publication Manual in all academic assignments
**Prerequisites**

1. Students must have taken EPSY6010 and EPSY6020 and earned a passing grade in both courses
2. Students must have a general interest in learning and conducting quantitative research

**Texts**


Other required reading materials can be found at the course web site at [http://learn.unt.edu](http://learn.unt.edu)

**Required Software**

You will need IBM SPSS Statistics with *Custom Table* functionality to complete your assignments. You can access SPSS Statistics at the UNT College of Education computer lab (Matthew Hall #309). If you would prefer to have the SPSS Statistics and Custom Table module in your own computer, you may purchase *SPSS Statistics Premium GradPack* (it is sold for $89 in January 2016) from [http://goo.gl/UyJFF](http://goo.gl/UyJFF)

**Course Policies and Procedures**

By signing up this course, you agree to observe the following course policies and procedures:

1. **Class Remind:** I use multiple communication tools including text messaging to interact with my students. Please join the class text messaging by sending a message @edhe6530 to 81010. See handout for details.
2. **Attendance:** A student/learner in the course is expected to attend the class meetings and meet the scheduled due dates for course assignments. There may be times when you have a professional meeting, are ill, or some act of providence prevents you from participating in class, if so, please inform me as soon as you can. My email and office phone number are listed at the beginning of this syllabus.
3. **Absence policy:** You first class absence will not affect your final grade. Second and subsequent class absences will reduce your final grade by 5 point for each absence. If you are late to the class for more than 30 minutes, I may consider it as an absence.
4. **Computer and cell phone in the classroom:** You are encouraged to bring your laptop or tablet to the classroom for note taking and to follow Dr. Chen’s lectures and demonstrations. However, please restrain yourself from using your computer for other purposes. Checking email or updating your social network status are NOT allowed in class. Please restrain yourself from using cell phone for any purpose during the class except for emergency situations. If you must make a phone call, please take your phone and step outside. Violation of computer and cell phone policy may result in expulsion from the class.
5. **Assignment submission:** Unless otherwise instructed, all assignments must be submitted electronically through Turnitin® system on the UNT Blackboard. Any paper that is not submitted through Turnitin® will not be accepted by the instructor and will not be graded. Before submitting your paper to Turnitin®, you may remove your name and other personal information from the paper. All assignments must be submitted to the instructor by 5:30 p.m. on the due
day to avoid late penalty. Assignments submitted late will be reduced 1/10 of the assignment grade. Assignments submitted after 5:30 p.m. on May 5, 2016, will not receive a grade.

6. **Writing Style**: All written work submitted in this course must conform to the American Psychological Association (APA) publication standards unless otherwise directed by the instructor. Students are expected to purchase the *APA Publication Manual (6th edition)* and consistently demonstrate successful application of its content. **Assignments that are not conformed to APA style will have a lower grade.** UNT library has a page on APA style, which can be accessed through [http://tinyurl.com/untAPA](http://tinyurl.com/untAPA)

7. **About grading**: An “A” paper or project is excellent--very strong in every sense. It represents a very solid job in addressing all aspects of the assignment, shows complex thinking and insight, reflects graduate-level writing (including introductory and concluding comments and appropriate transitions linking various sections), and is free of errors (e.g., APA, grammar, spelling, syntax, logic, organization, clarity, style). A “B” paper or project is good. It has some weaknesses in one of more of these areas but captures the essential elements of the assignment. Lower grades (i.e. C, D, and F) are assigned to papers and projects with more significant weaknesses in the areas noted above and do not reflect the quality expected in graduate-level studies. For this course, an “A” paper or project will receive 90%-100% of the total points for that paper or project. A “B” paper or project will receive 80%-90% of the total points. A “C”, “D”, and “F” paper or project will receive 70%-80%, 60%-70%, and 0%-60% of the total points respectively.

8. **About incomplete**: Incompletes are not given except for major emergencies late in the term and only after consultation and mutual agreement upon a contract specifying when the work will be completed. Incompletes will not be granted simply because more time is desired to complete the assignments or one wishes to complete the course during a subsequent semester.

9. **Emergency plan**: Please refer to *Course Contingency & Continuance Policy for Dr. Pu-Shih Daniel Chen’s Classes* in case of campus closure or other emergency situations.

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**My Teaching Philosophy and Expectations**

1. I believe that class is a learning community. As a community member, learners are expected to actively participate in class activities, behave civilly and ethically toward each other, challenge each other intellectually, and support each other when necessary.

2. I believe my responsibility as a teacher is to inspire learners, share knowledge and experiences, and facilitate learning habits. The teacher must be a role model of good learning habits as I work hard to advance my knowledge through reading, conducting research, exchanging and sharing knowledge and ideas with others in the profession, and reflecting and writing.

3. I expect the learners of my class to evaluate the validity and reliability of information, remember key facts, analyze and synthesize facts and information, integrate the knowledge and reflect on their own experiences, and apply the knowledge in real life situations through research and practice.

4. I believe the learning objectives and expected outcomes must be clearly communicated to the learners in the beginning of the semester. All class activities, readings, assignments, assessments, and grading standards must be directly tied to the learning objectives.

5. As future higher education leaders, my students are expected to show professionalism and ethical behaviors in all class-related activities.
Publicly Available Secondary Data

- U.S. Data.gov [http://www.data.gov/]
- Integrated Postsecondary Education Data System (IPEDS) [http://nces.ed.gov/ipeds/datacenter/]
- NCES Education Data Analysis Tool (eDAT) [http://nces.ed.gov/edat/index.aspx?agrmnt=1]
- Inter-University Consortium for Political and Social Research (ICPSR) [http://www.icpsr.umich.edu/icpsrweb/ICPSR/index.jsp]
- Carnegie Classification of Institutions of Higher Education [http://classifications.carnegiefoundation.org/resources/]
- The Office of Population Research (OPR) at Princeton University [http://opr.princeton.edu/]
- Panel Study of Income Dynamics [http://psidonline.isr.umich.edu/]
- Texas Higher Education Accountability System [http://www.txhighereddata.org/Interactive/Accountability/default.cfm]
- Texas Education Agency Data Resources and Research [http://ritter.tea.state.tx.us/data.html]
- Cooperative Institutional Research Program (CIRP) Data Archives [http://www.heri.ucla.edu/archives.php]
- Roper Center for Public Opinion Research [http://www.ropercenter.uconn.edu/]
- General Social Survey (GSS) [http://www.norc.org/GSS+Website/]
- U.S. Census Bureau [http://www.census.gov/]
- Dataverse Network Project [http://thedata.org/]
- Collaborative on Academic Careers in Higher Education (COACHE) [http://isites.harvard.edu/icb/icb.do?keyword=coache&pageid=icb.page307142]
- Panel Study of Income Dynamics (PSID) [http://psidonline.isr.umich.edu/default.aspx]

Academic Integrity & Academic Misconduct

Academic Integrity is defined in the UNT Policy on Student Standards for Academic Integrity. Academic Dishonesty includes cheating, plagiarism, forgery, fabrication, facilitating academic dishonesty, and sabotage. Any suspected case of Academic Dishonesty will be handled in accordance with University policy and procedures. Possible academic penalties range from a verbal or written admonition to a grade of “F” in the course. Further sanctions may apply to incidents involving major violations. The policy and procedures are available at: [http://vpaa.unt.edu/academic-integrity.htm]

Eagle Connect

All UNT students should activate and regularly check their EagleConnect (e-mail) account. EagleConnect is used for official communication from the University to students. Many important announcements for the University and College are sent to students via EagleConnect. For information about EagleConnect, including how to activate an account and how to have EagleConnect forwarded to another e-mail address, visit [https://eagleconnect.unt.edu]. This is the main electronic contact for all course-related information and/or material.
Student Perceptions of Teaching (SPOT)

Completion of an online students’ perceptions of teaching survey is a requirement for all organized classes at UNT. This short survey will be made available to you close to the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work continually to improve my teaching. I consider your completion of this online survey to be an important part of your participation in this class.

Student Behavior in the Classroom

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 http://www.unt.edu/csrr/

Observation of Religious Holy Days

If you plan to observe a religious holy day that coincides with a class day, please notify me as soon as possible.

Students with Disabilities

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940-565-4323.

Succeed at UNT

Show Up	Find Support	Get Advised	Be Prepared	Get Involved	Stay Focused
## Learning Tasks, Due Dates, and Grades

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics</th>
<th>Readings before class</th>
<th>Learning Tasks (due at the class day)</th>
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<tbody>
<tr>
<td>1/20</td>
<td>Course overview&lt;br&gt;Review of the syllabus&lt;br&gt;Research tools and resources&lt;br&gt;A quick overview of APA format&lt;br&gt;What is secondary data and where to find it?&lt;br&gt;Publically available secondary data&lt;br&gt;Private secondary data&lt;br&gt;An Overview of NCES websites</td>
<td>Field Ch. 3&lt;br&gt;Smith (2008), Pitfalls and Promises..&lt;br&gt;Field Ch. 2&lt;br&gt;Przeworski &amp; Salomon (2012). The art of writing proposals..&lt;br&gt;Field Ch. 4, 5</td>
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<tr>
<td>1/27</td>
<td>Introduction to secondary data analysis&lt;br&gt;Secondary data: IPEDS, NCES postsecondary data, Datalab, &amp; eDAT&lt;br&gt;Basic SPSS operation&lt;br&gt;Create and open a data file&lt;br&gt;Data entry&lt;br&gt;Introduction to SPSS syntax</td>
<td>Field Ch. 3&lt;br&gt;Smith (2008), Pitfalls and Promises..&lt;br&gt;Field Ch. 1&lt;br&gt;Research article annotation &amp; critique due</td>
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<td>2/3</td>
<td>What is a research?&lt;br&gt;Research vs. assessment&lt;br&gt;Research design basics&lt;br&gt;How to draft your research questions?&lt;br&gt;Ethical considerations for quantitative researchers&lt;br&gt;Secondary data: NSSE</td>
<td>Field Ch. 1&lt;br&gt;Research article annotation &amp; critique due</td>
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<tr>
<td>2/10</td>
<td>What is effect size and why is it important?&lt;br&gt;Quality check&lt;br&gt;Validity &amp; reliability&lt;br&gt;Missing data&lt;br&gt;Working with secondary data set&lt;br&gt;Data management in SPSS&lt;br&gt;Codebook&lt;br&gt;Clean up data&lt;br&gt;Data transformations&lt;br&gt;Merge datasets&lt;br&gt;Constructing variables</td>
<td>Field Ch. 2&lt;br&gt;Field Ch. 4, 5</td>
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<tr>
<td>2/17</td>
<td>Developing a research proposal&lt;br&gt;Introduction/purpose/research questions&lt;br&gt;Literature support/conceptual framework&lt;br&gt;Method&lt;br&gt;Expected learning outcomes</td>
<td>Przeworski &amp; Salomon (2012). The art of writing proposals..&lt;br&gt;Field Ch. 4, 5</td>
<td>Data analysis assignment #1 due</td>
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<td>2/24</td>
<td>Secondary data presentation</td>
<td>Secondary data presentation due</td>
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<td>3/2</td>
<td>Conducting and reporting descriptive statistics&lt;br&gt;Custom table&lt;br&gt;Mean and standard deviation&lt;br&gt;Median and mode</td>
<td>Field Ch. 4, 5</td>
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3/9  | Reliability analysis  | Field Ch. 9, 11, 17  | Data analysis assignment #2 due
    | Exploratory Factor Analysis  
    | Conducting and reporting group means t-test  
    | ANOVA
3/16 | **Spring Break (no class)**
3/23  | Conducting and reporting association  
       | Crosstabulations  
       | Chi square  
       | Pearson correlation  
       | A brief introduction to non-parametric statistics  
       | Complex sampling and weighting issues in large national and international dataset
3/30  | Conducting and reporting regression and multiple regression analysis  | Field Ch. 8, 10
4/6   | Student presentation of research proposal  | Research proposal presentation and paper due
4/13  | Conducting and reporting logistic regression and other advanced statistical analysis  
       | Demonstration of R  
       | Review and consolidating session  
       | Discuss “Estimating Causal Effects Using Experimental and Observational Designs”
4/20  | Individual consultation with the instructor (no class meeting)
4/27  | Student presentation of research results
5/4   | Student presentation of research results  | Final research paper due on May 5, 2016 at 5:30 pm

### Learning Tasks, Due Date, and Grades

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<th>Task</th>
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<td><strong>Research Article Annotation &amp; Critique:</strong> You are encouraged to read beyond the materials assigned for the course. The completion of a research article annotation drawn from research journals is designed to encourage this behavior. <strong>For the purpose of this class, you must select an article that utilized secondary data with a quantitative research design from a peer-reviewed academic journal.</strong> A research article is one that reports the results of a study that uses data derived from actual observation or experimentation. The annotation should not exceed 3 pages double-spaced (except title page and references) and must follow the latest APA format. The annotation should include a one-paragraph summary of the principal themes in the article. This should be followed by at least one paragraph that provides an analysis of the article explaining how the author supported conclusions drawn. The analysis also</td>
<td>2/3</td>
<td>30 points</td>
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should include a discussion or critique of the article’s research method. Finally, the annotation should include a brief critique and reflection demonstrating the relevance of the article to you. You should provide at the top of the assignment a full citation of the article in APA format. Additionally, you will be asked to make a five minute presentation about the article you critiqued in class.

**Data Analysis Assignments:** You are to complete 3 data analysis assignments using SPSS Statistics. The data analysis assignments are intended to serve both instructional and grading purposes. Even though these are individual assignments, your effort can be viewed as part collaborative and part individual. You are encouraged to discuss with others about analysis procedures and computer-related problems. However, it is expected that the necessary statistical program run, syntax editing, any required supplemental hand calculations, and the construction of the required tables or figures will be entirely your own independent effort. The detail of these assignments will be given out in class.

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<th>Date</th>
<th>Assignment Details</th>
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<tr>
<td>2/17</td>
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<tr>
<td>3/9</td>
<td>90 total</td>
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**Secondary Data Presentation:** You are to become familiar with one of the public or private secondary data sets and present the details of this data set to the class. You address all the following questions and include other vital information you can find about the data set. Your presentation must use visual aid and not longer than 10-15 minutes. The information you must include but not limited to are:

- Who (organization or individuals) created the data set?
- What was the original purpose/research for the creating of this data set?
- From what population were data collected?
- What did the original data collector/research designer do to ensure the reliability and validity of the data set?
- When were the data collected?
- What is the data access policy of the current data set owner?
- How did you get access to the data set? Did you have to pay to get access?
- What are the limitations put on the data set by the data owner?
- Why are you interested in this data set?
- What are the key variables that you are interested in doing further investigation? Please give details on these variables including descriptive statistics (if possible).
- Present two research questions that you think can be answered by this data set

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<td>2/24</td>
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**Research Proposal/Presentation:** You are to prepare a research proposal per instructions given in the class. The research proposal should have three chapters: Introduction, Literature Review, and Methodology. The purpose of the research proposal is to convince the panel of reviewers the value of your proposed study. The proposal should be around 10 pages double-spaced and the presentation should be 10-15 minutes. Your classmates will act as the panel of reviewers and they will challenge you to defend your proposal. APA format must be strictly followed.

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<tr>
<th>Date</th>
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<tr>
<td>4/6</td>
<td>Presentation: 20 points</td>
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<td></td>
<td>Paper: 30 points</td>
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**Final Research Paper and Presentation:** Your final paper and presentation should build upon your research proposal by adding two more chapters: Results and Discussion. The paper should not exceed 25 pages double-spaced and the presentation should not exceed 20 minutes. APA format must be strictly followed.

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<tr>
<th>Date</th>
<th>Assignment Details</th>
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<tr>
<td>4/27</td>
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<td>5/5</td>
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<td>5/4</td>
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## Grading Matrix

<table>
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<th>Task</th>
<th>Points</th>
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<tbody>
<tr>
<td>Research Article Annotations</td>
<td>30</td>
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<tr>
<td>Data Analysis Assignments</td>
<td>90</td>
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<tr>
<td>Secondary Data Presentation</td>
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<tr>
<td>Research Proposal/Presentation</td>
<td>50</td>
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<tr>
<td>Final Research Paper and Presentation</td>
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<tr>
<td>Class Participation</td>
<td>30</td>
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<td>Total</td>
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<tr>
<th>Final Grade</th>
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<tr>
<td>A 280 points or above</td>
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<td>B 250-279 points</td>
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<td>C 220-249 points</td>
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<td>D 190-219 points</td>
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<td>F Less than 190 points</td>
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