TEXAS A&M UNIVERSITY-CORPUS CHRISTI

CNEP 6372 SEMINAR IN ADVANCED STATISTICAL TECHNIQUES AND EVALUATION METHODOLOGY

Instructor: Kristina Nelson, Ph.D., NCC  
Office/Office Hours: T & W 12:00-3:00pm  
Office Telephone: 361-825-3039  
E-mail: Kristina.nelson@tamucc.edu

Semester: Spring 2020  
Class Date: 1/23-5/14  
Class Time: 7:00-9:30pm  
Class Location: OCNR 222

Course Description

CNEP 6372: Seminar in Advanced Statistical Techniques and Evaluation Methodology (3 SCH). This research methodology course is designed to provide doctoral students with application experience in quantitative, qualitative, and mixed-method data analytic procedures. Students will address promises and pitfalls using advanced univariate, multivariate, and non-parametric techniques introduced in CNEP 6360 and CNEP 6370. This course is designed to help students address data analytic applications relevant to professional consulting and clinical and counseling practice as well as contexts involving program evaluation in a wide range of professional settings. Prerequisites: CNEP 6320; CNEP 6360; CNEP 6370.

Rationale

This is an interdisciplinary research course, emphasizing designing quantitative and qualitative research, coding and analyzing data, computing statistical results, and using statistical software. Outcomes include the ability to develop hypotheses, execute statistical tests, analyze the results, and communicate the results.

Instructional Methods

Course content will be presented using multiple teaching strategies including lecture and discussion, exploration and inquiry, cooperative group work, demonstrations, and/or presentations.

Learning Objectives

This course is designed to meet 2016 CACREP standards included in Section 6 (doctoral professional identity). The following standards represent the learning objectives established for this course. Upon completion of the course, students will be knowledgeable of:

- **CACREP Standard 6-B-4-a**: research designs appropriate to quantitative and qualitative research questions. *Students will successfully complete this learning objective by achieving a score of 80% or higher on application assignments and methods section paper*

- **CACREP Standard 6-B-4-b**: univariate and multivariate research designs and data analysis methods. *Students will successfully complete this learning objective by achieving a score of 80% or higher on the learning checks, application assignments, and methods section paper*
- **CACREP Standard 6-B-4-d**: emergent research practices and processes.  
  *Students will successfully complete this learning objective by achieving a score of 80% or higher on discussion posts, learning checks, and application assignments*

- **CACREP Standard 6-B-4-g**: research questions appropriate for professional research and publication.  
  *Students will successfully complete this learning objective by achieving a score of 80% or higher on discussion posts, application assignments, methods section paper*

**Major Course Requirements**

**Instructional Lectures and Related Webinars.** As part of the course experience, I will be providing instructional lectures and supplemental webinars for each course module. Lectures will comprise approximately 1 hour of class time with the remainder of time being spent on content application. Webinars are presented as an adjuvant to in-class lecture and will typically support completion of module homework assignments. I will remain available at the end of most class meetings to answer any questions you may have or to provide guidance related to the course material, assignments, and related professional issues.

**Learning Checks.** Each course module will be associated with a learning check that is due by Wednesday at 11:59pm during the first week of each course module. Learning checks will be facilitated through the BlackBoard platform for this course and will consist of 50 multiple choice items across the 5 learning checks which will be related to the required reading for each module. For example, one module may have 10 items, whereas another may have 12; at the end of the semester, you will have completed 50 items worth 2 points each.

**Discussion Posts.** You are expected to participate during week 2 of each module in the Discussion area. Discussion topics/questions are provided in the Discussion Board area. In addition, you are expected to respond to your fellow students’ postings. To count as participation, responses need to be thoughtful; that is, they must refer to the week's readings, relevant professional issues, information obtained from other sources, and/or ideas expressed in other class members’ postings. Where appropriate, you should use references to support your position. Each module has one Discussion prompt. The prompt will usually require you to locate a journal article that features the statistical method being addressed. Each of the 5 discussion posts require that you respond to at least 2 peers on 2 different days and your response should be no more than a paragraph or two. Your Initial Postings for the discussion board are due by the second Sunday of each module by 11:59pm, and all peer responses are due by Wednesday at 11:59pm. It is important to adhere to the weekly time frame to allow others ample time to respond to your posting. Discussions will be graded according to the Discussion Posting and Response Rubric. Each discussion post is worth 20 points (see rubric in course resources).

**Application Assignments.** Application assignments will prompt you to complete basic analyses for each of the categories of statistical analysis that we will cover. I will provide you with clearly stated directions for completing and reporting these analyses, each of which will require you using the IBM SPSS grad pack software required within this course. Each of the 5 application assignments are worth 50 points toward your cumulative course grade.
Method Section Report for Research Project. As a part of this course, you will be required to submit a document depicting a fully developed method section similar to those used in CNEP dissertations. Guidelines for content are provided at the end of this document for quantitative and qualitative designs, but I will be available for consultation in the event that you decide to complete a mixed methodological approach. This document will require demonstration of doctoral-level proficiency with the American Psychological Association Publication Manual, Sixth Edition. I have provided you with tutorial videos within your course BlackBoard page. This assignment will be graded using the related assignment rubric available in your BlackBoard course page.

Extra Credit Opportunity. Students will have an opportunity to receive 10 points (2%) toward their overall grade by joining the Association for Assessment and Research in Counseling (does not require ACA membership) or the Texas Association for Assessment in Counseling and Education (requires a TCA membership). Confirmation of membership must be received by February 15 to receive this credit.

Point Allocation

<table>
<thead>
<tr>
<th>Assignment/Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Learning Checks</td>
<td>100</td>
</tr>
<tr>
<td>5 Discussion Posts (25 points each)</td>
<td>100</td>
</tr>
<tr>
<td>5 Application Assignments</td>
<td>250</td>
</tr>
<tr>
<td>1 Method Section Report</td>
<td>50</td>
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<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>500</strong></td>
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</table>

Grade Distribution

<table>
<thead>
<tr>
<th>Points Range</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 – 450</td>
<td>A</td>
</tr>
<tr>
<td>449 – 400</td>
<td>B</td>
</tr>
<tr>
<td>399 – 350</td>
<td>C</td>
</tr>
<tr>
<td>349 – 300</td>
<td>D</td>
</tr>
<tr>
<td>Σ &lt; 300</td>
<td>F</td>
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</table>

Required or Recommended Readings

Textbooks:


** In addition to these texts and articles, you will identify a number of supplementary articles that contribute to your discussion posts during the course. These will be used to supplement the texts and help you develop your abilities as an effective consumer of counseling and counselor education outcome research.

**Recommended or supplemental readings:**


SPSS Graduate Pack- Version 20 or higher. Available through SPSS or the TAMUCC Bookstore


**INTERNET RESOURCES:**


http://www.anselm.edu/homepage/jpitocch/biostatstime.html -- History timeline for statistics

http://www.psychstat.smsu.edu/introbook/sbk00.htm A very good on-line text for introductory statistics.

http://research.ed.asu.edu/siip/ -- Many resources for statistics, including databases.


http://www.statistics.com/ -- Information about statistics software (major packages like SAS, SPSS and S-PLUS, shareware and smaller packages too), as well as about statistics analysis, data analysis and short courses in statistics.

http://www.dartmouth.edu/~chance/ -- The Chance Database; includes videos and audio on topics related to chance, statistics, probability, randomness, etc. An excellent site.

http://nilesonline.com/data/ -- Where to find data on the Internet; many sources, from agriculture to education to economics and more.

http://www.fedstats.gov/ -- More than 70 agencies in the United States Federal Government produce statistics of interest to the public. The Federal Interagency Council on Statistical Policy maintains this site to provide easy access to the full range of statistics and information produced by these agencies for public use.

**State Adopted Proficiencies for School Counselors**
Coursework may be applied toward LPC licensure in the State of Texas.

Course Policies

Grade Appeals

As stated in University Rule 13.02.99.C2, Student Grade Appeals, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Rule 13.2.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://academicaffairs.tamucc.edu/rules_procedures/ For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

Participation & Professionalism

Like any class, this class may be considered a rather large group. As in any group, commitment--as reflected by attendance and active participation--is vital. Because of the strong experiential component (partner learning, data applications, practice designing and developing research and evaluation plans) in this class, your attendance is important not only for your own learning but for the learning of others and for class spirit. Therefore, you must both attend and participate (i.e., talk) in class discussions about readings and in other activities. This will require that you read assigned material prior to the class period in which the reading is discussed. It is also expected that your cell phones be turned off or on vibrate and not visible for the duration of the class. More than two absences for any reason will result in a letter grade deduction for the course.

Late Work Policy

One added challenge to attending graduate school coursework is that many students have families, work part or full-time jobs, and have to negotiate a number of responsibilities outside of the classroom. As a faculty member I acknowledge that it is understandable that life circumstances may take precedence to your school work and encourage you to plan, when possible, the turning in of your assignments and completion of course activities in the event that you should have to miss class. As a policy, all assignments are to be turned in by the beginning of class on the due day. I do not accept any late work that is not accompanied by documentation (e.g. medical professional, computer technician report, etc.); however, I will accept incomplete work and score what work has been completed.

Classroom Climate

The classroom is a place to facilitate a climate of professionalism and respect at all times. Please be cognizant that classroom discussion and sharing benefits personal and professional growth. It is imperative that you remember to respect other opinions regardless of whether they are similar or very divergent from your own. Talking while others are sharing, holding side conversations with your neighbors during class discussions, talking negatively about the course, and providing
negative commentary about those teaching the course, all contribute to a negative classroom climate. Any student actively participating in negative classroom climate behaviors, will impact their ability to obtain a professor recommendation for future jobs and may result in formal documentation in the student’s permanent file. Because this course is in hybrid format and is shared by participants, it is not possible to make up material missed in class. Plan to attend all class meetings. Students are expected to adhere to the Ethical Guidelines of the American Counseling Association and the Association for Counselor Education and Supervision when engaged in counseling, teaching, and/or scholarly activities. Unethical conduct may result in grade penalty or other consequences according to departmental guidelines.

Diversity
The Department of Counseling and Educational Psychology aspires to create a safe and diversity-sensitive learning environment that respects the rights, dignity, and welfare of students, faculty, and staff. Diversity means the fair representation of all groups of individuals, the inclusion of minority perspectives and voices, and appreciation of different cultural and socioeconomic group practices. We aspire to foster and maintain an atmosphere that is free from discrimination, harassment, exploitation, or intimidation. Department courses will strive to provide opportunity for all students to discuss issues of diversity including, but not limited to, ethnicity, gender, disability, and sexual orientation.

Disability Accommodations
The Americans with Disabilities act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call or visit Disability Services at (361) 825-5816 in Driftwood 101. If you are a returning veteran and experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance at (361) 825-5816.

Statement of Academic Continuity
In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

Written Assignments and Academic Misconduct
All written work submitted must be the student’s original work and conform to the guidelines format and style indicated within the American Psychological Association (APA) Publication Manual, Sixth Edition available online and via their publications catalog. This means that any substantive ideas, phrases, sentences, and/or any published ideas must be properly referenced to avoid even the appearance of plagiarism. Plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full or clear acknowledgment. It also includes the unacknowledged use of materials prepared by
another person or agency in the selling of term papers of other academic materials. It is the
student’s responsibility to know all relevant university policies concerning plagiarism. Any
documented cases of plagiarism can and will result in dismissal from the course with a failing
grade, and may result in other more serious sanctions by the College of Education and Human
Development.

Your written work may be submitted to Turnitin.com, or a similar electronic detection method,
for an evaluation of the originality of your ideas and proper use and attribution of sources. As
part of this process, you are required to submit electronic copies of your written work or may be
given other instructions to follow. By taking this course, you agree that all assignments may
undergo this review process and that the assignment may be included as a source document in
Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such
documents. Any assignment not submitted according to the procedures given by the instructor
may be penalized or may not be accepted at all.

<table>
<thead>
<tr>
<th>Tentative Course Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Module</strong></td>
</tr>
</tbody>
</table>
| 1 | 1 | -Overview of course  
- A Consumer’s Approach to Counseling  
Research and Program Evaluation  
Class Activity  
Due: Prep Check 1 | Ellis Ch. 1 & 2 |
| 1 | 2 | -Computing and Interpreting Effect Size  
Class Activity  
Due: Discussion 1 | Watson et al. (2016) |
| 1 | 3 | -Reporting the Results of Effect Size  
Analysis  
Class Activity  
Due: Application Assignment 1 | |
| 2 | 4 | -Examining Relationships Between  
Variables  
- Designing Predictive Studies  
Class Activity  
Due: Prep Check 2 | Balkin & Kleist Ch. 6 |
| 2 | 5 | -Computing and Interpreting Results of  
Bivariate and Multiple Regression  
Class Activity  
Due: Discussion Post 2 | Swank & Mullen (2017) |
| 2 | 6 | -Reporting the Results of Bivariate and  
Multiple Regression Analyses  
Class Activity  
Due: Application Assignment 2 | |
<table>
<thead>
<tr>
<th>Week</th>
<th>Due Date</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 3    | 7        | -Outcome Evaluations with One Group  
|      |          | -Designing Pre-Experimental Studies -  
|      |          | Mixed, Explanatory Designs  
|      |          | **Class Activity**  
|      |          | **Due: Prep Check 3** |
|      |          | Balkin  
|      |          | &  
|      |          | Kleist  
|      |          | Ch 8  
|      |          | Posavek Ch. 9 |
| 3    | 8        | Computing and Interpreting Single-Group  
|      |          | Evaluations  
|      |          | **Class Activity**  
|      |          | **Due: Discussion Post 3** |
|      |          | Balkin &  
|      |          | Kleist Ch  
|      |          | 8  
|      |          | Posavek Ch. 9 |
| 9    |          | **SPRING BREAK** |
| 3    | 10       | -Reporting the Results of Single-Group  
|      |          | Evaluations  
|      |          | **Class Activity**  
|      |          | **Due: Application Assignment 3** |
| 4    | 11       | -Evaluating Outcomes with a Single-Case  
|      |          | -Designing SCRDs  
|      |          | **Class Activity**  
|      |          | **Due: Prep Check 4** |
|      |          | Lenz (2015)  
|      |          | Ray (2015) |
| 4    | 12       | -Computing and Interpreting SCRDs  
|      |          | **Class Activity**  
|      |          | **Due: Discussion Post 4** |
|      |          | Lenz (2013) |
| 4    | 13       | -Reporting the Results of SCRDs  
|      |          | **Class Activity**  
|      |          | **Due: Application Assignment 4** |
| 5    | 14       | Synthesizing Research Results Using Meta-  
|      |          | Analysis  
|      |          | Designing Systematic Reviews & Meta-  
|      |          | Analysis  
|      |          | **Class Activity**  
|      |          | **Due: Prep Check 5** |
| 5    | 15       | Computing and Interpreting Meta-Analyses  
|      |          | **Class Activity**  
|      |          | **Due: Discussion Post 5** |
| 5    | 16       | -Reporting the Results of Meta-Analyses  
|      |          | **Class Activity**  
|      |          | **Due: Application Assignment 5** |
| 5    |          | **Due: Method Section for Research Project** |

**Method Section Report for Research Project**
Your completed assignment will describe a proposed research method that can be implemented for a project similar to the CNEP dissertations and should include the following headings:

**For Qualitative Studies**
- Purpose of the Study
- Identification of Methodology and Rationale
- Research Questions
- Role of the Researcher
- Sampling Procedure and Participant Characteristics
- Context of the Study
- Data Collection
- Triangulation
- Trustworthiness
- Data Analysis
- Representation of Data

**For Quantitative Studies**
- Purpose of the Study
- Identification of Methodology and Rationale
- Research Questions/Hypotheses
- Sampling Procedure
- Description of Potential Participant Characteristics
- Context of the Study
- Measurement of Constructs
- Intervention
- Evaluation of Fidelity
- Data Analysis
  - Statistical power analysis
  - Preliminary analysis
  - Primary analysis
- Representation of Data
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Exceeds Standard (19-20 points)</th>
<th>Meets Standard (14-18 Points)</th>
<th>Below Standard (0-13 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calculations</strong></td>
<td>correct analyses were selected for all computations. 2 or fewer errors across computed results.</td>
<td>correct analyses were selected for all computations. More than a few errors across computed results.</td>
<td>incorrect analyses were selected for some or all of the computations. several errors exist in the accuracy of computed results.</td>
</tr>
<tr>
<td><strong>Reporting</strong></td>
<td>Reporting is consistent with standard depicted in course templates with two 2 or fewer deviations from standard format</td>
<td>Reporting is mostly consistent with standard depicted in course templates with more than a few deviations from standard format</td>
<td>not consistent with standard depicted in course templates with several errors or omissions from standard format</td>
</tr>
<tr>
<td><strong>Presentation of Findings &amp; APA Format/Style</strong></td>
<td>use of tables and/or figures is consistent with standard presented in class. Data is accurately reported in table/figure when compared to what is reported in-text. 2 or fewer errors exist.</td>
<td>use of tables and/or figures is consistent with standard presented in class. Data is accurately reported in table/figure when compared to what is reported in-text. More than a few errors exist in APA style/format of reporting or data presentations are missing.</td>
<td>use of tables and/or figures is not consistent with standard presented in class. Data is not accurately reported in table/figure when compared to what is reported in-text. Several errors exist in APA style/format of reporting or data presentations are missing.</td>
</tr>
</tbody>
</table>
# Grading Rubric for Discussion Board Posts

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Excellent (14-15 points)</th>
<th>Well-Done (12-13 points)</th>
<th>Needs Development (6-11 points)</th>
<th>Below Standard (0-5 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Post</strong></td>
<td>Initial post thoroughly addresses all parts of the assignment. The comments are clearly and concisely stated, demonstrating that the content was appropriately reviewed and synthesized. Includes citations.</td>
<td>Initial post addresses most, but not all, of the assignment. Comments are reasonably organized and demonstrate adequate familiarity and analysis of the content. Includes citations.</td>
<td>Initial post addresses some of the assignment requirements. Post is not well organized and shows limited knowledge and evaluation of the topic. No citations.</td>
<td>Initial post was made but did not address the assignment requirements. No citations</td>
</tr>
<tr>
<td><strong>Response Posts</strong></td>
<td>Multiple postings are made offering substantial, well written contributions—opinions, observations, questions, experiences, critiques, suggestions, etc. Includes citations.</td>
<td>Multiple postings including some substantial content were posted, however, a limited number include errors or need additional supporting detail. Includes citations.</td>
<td>Only one substantial message was posted OR postings are not substantial, limited to “I agree” types of replies. No citations.</td>
<td>No response postings</td>
</tr>
<tr>
<td><strong>Participation &amp; Quality</strong></td>
<td>Postings are evenly distributed throughout the discussion period reflecting participation from start to finish. Multiple replies were posted for at least 2 classmates or more.</td>
<td>Postings were submitted on 2 or more days during the discussion period (2 or more during a 1-week discussion), but may not reflect participation from start to finish. Replies were posted for at least 2 classmates.</td>
<td>Postings were submitted on at least 1 days during the discussion period. Replies were posted for at least 1 classmates.</td>
<td>Participation was not continuous throughout the discussion period (1 day only), not substantiative, or no posts were made.</td>
</tr>
</tbody>
</table>