CNEP 6360: RESEARCH DESIGN & STATISTICS
Texas A&M University - Corpus Christi
Department of Counseling and Educational Psychology

COURSE SYLLABUS

PROFESSOR: Dr. Joshua C. Watson
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OFFICE HOURS (Fall 2016): MTW 2:00-4:00 or by appointment

I. Course Description

This course is designed as a doctoral level survey of Research Design and Statistics. The major focus will involve an examination of the theoretical assumptions underlying various research designs and the use of inferential statistics. Special emphasis will be placed on the selection of appropriate design for specific applications in counseling and educational contexts. The course will involve both theoretical exploration and instruction of computer-based statistical software tools (i.e., SPSS).

II. Rationale

This course has four goals: (a) to increase your understanding of research concepts and procedures, (b) to develop your appreciation of the importance of research in education, (c) to develop your skills in data analysis and interpretation, (d) to develop your skills in preparing a research manuscript.

This course is the first course in a doctoral studies research curriculum. There are several stages in conducting research: planning, piloting, data collecting, data analyzing, and reporting. This class will not cover all of these areas but will provide the blueprint for these areas, which will be elaborated upon in your future course work.

III. State Adopted Proficiencies for School Counselors

Coursework may be applied toward LPC licensure in the State of Texas.

IV. TExES School Counselor Competencies

*Competency 010 (Professionalism):* The school counselor understands and complies with ethical, legal and professional standards relevant to the profession.

*Competency 006 (Counseling):* The school counselor understands how to provide effective counseling services to individuals and small groups.
V. Course Objectives and Learning Outcomes

A) Objectives

This course is designed to meet 2016 CACREP standards included in Section 6 (doctoral professional identity). The following standards are covered in this course. Standards shown in bold type represent the targeted course objectives that will be assessed in this course throughout the semester.

Doctoral Standards

- CACREP Standard 6-B-1-e: Methods for evaluating counseling effectiveness.
- CACREP Standard 6-B-4-a: Research designs appropriate to quantitative and qualitative research questions.
- CACREP Standard 6-B-4-b: Univariate and multivariate research designs and data analysis methods.
- CACREP Standard 6-B-4-d: Emergent research practices and processes.
- CACREP Standard 6-B-4-g: Research questions appropriate for professional research and publication.
- CACREP Standard 6-B-4-j: Design and evaluation of research proposals for a human subjects/institutional review.
- CACREP Standard 6-B-4-l: Ethically and culturally relevant strategies for conducting research.

B) Learning Outcomes

This course infuses the CACREP Learning Objectives listed in the Section 6 Standards, the state adopted proficiencies, and the TExES competencies listed above to enable students to demonstrate understanding of the following objectives. Upon completion of the course, students will be able to:

- Correctly identify the fundamental ethical principles underlying human subject research as evidenced by a score of 80% or higher on homework assignment #1 (completion of the CITI human subject research online training course).
- Successfully evaluate published research studies in the counseling literature and identify associated strengths and weaknesses of the research design described in these studies as evidenced by a score of 80% or higher on homework assignment #2 (research critique paper).
• Correctly articulate the salient features of each major research design discussed in class as evidenced by achieving a score of 80% or higher on #3 (selecting appropriate research designs).

• Formulate appropriate research questions specific to counseling research as evidenced by achieving a score of 80% or higher on the midterm examination.

• Correctly identify characteristic differences in quantitative sampling procedures as evidenced by achieving a score of 80% or higher on the final examination.

• Successfully demonstrate proficiency in using SPSS statistical software to conduct basic quantitative analyses as evidenced by achievement of a score of 80% or higher on homework assignment #4 (measures of central tendency and variability).

• Accurately select and carry out the correct statistical analysis to address stated research questions as evidenced by achievement of a score of 80% or higher on homework assignment #5 (distributions and hypothesis testing).

• Correctly analyze a set of data using nonparametric statistics as evidenced by achievement of a score of 80% or higher on homework assignment.

• Successfully design a research project consistent with the guidelines for publication relevant to the counseling profession (APA 6th edition) and best practices in research design as evidenced by achievement of a score of 80% or higher on the course final project.

VI. Course Topics

• Orientation to the Research Process
• Research Ethics
• Reliability and Validity
• Basic Research Designs
• Variables and Measurement Scales
• Frequencies and Score Distributions
• Measures of Central Tendency, Variability, and Standard Scores
• Hypothesis Testing
• T-Test Family Designs (single sample, independent & dependent measures)
• Correlational Designs and Basic Regression Analyses

VII. Instructional Methods and Activities

This course will be presented using a variety of teaching modalities. Course content will be presented in a traditional lecture format followed by class discussion and experiential learning activities. Hands on activities using statistical software packages and calculators will be used to supplement student learning.
In addition to meeting all course objectives laid out in this syllabus, students are required to become familiar with Blackboard as it will serve as the primary repository for the information and files to be used throughout this course. Students can access the Blackboard homepage for this course at: https://bb9.tamucc.edu/ using their TAMUCC login.

VIII. Evaluation and Grade Assignment

A) Major Course Assignments

**Homework Assignments (25 points)**

Throughout the semester students will complete a series of five homework assignments; each worth five points. These assignments are designed to provide students an opportunity to demonstrate their understanding of the concepts and techniques discussed in class. The descriptions for these assignments are posted on the course Blackboard page along with any supplemental materials and/or files needed and the scoring rubric detailing how submitted work will be evaluated. All submissions should be uploaded to Blackboard by the due date specified online and in the course schedule.

**Research Project (25 points)**

Students will submit a paper (15-20 pages in length) describing the core methodological elements of a research project they would like to carry out. The paper will be in the form of a research proposal (similar to what would be submitted for a research grant or fellowship) and include the following components:

1. Specific aims (broad research questions and specific hypotheses);

2. Background and significance (review of the modern literature focusing specifically on methodological considerations that set up why this study is better and needed);

3. Research methods (the research design, the procedures to be used to accomplish the specific aims, and how the data will be collected, analyzed, and interpreted). This section represents the critical part of the paper and will count most heavily.

4. Expected implications of the study (should the results be what you hypothesize, how could they be utilized to inform practice, and to whom would the results be relevant?)

Papers should be formatted according to APA (6th ed.) standards and include at least 10 contemporary references from the professional counseling literature. Students who are unsure of how to proceed are encouraged to ask their instructor for clarification or assistance. The research project is worth 25 points and will be assessed according to the rubric posted on Blackboard along with the description of this assignment.
Examinations (50 points)

Two (2) examinations (midterm and final) will be administered this semester. The format for these examinations will include a combination of multiple choice and short answer computation problems. The examinations are not cumulative, and will cover only the material presented since the last examination. For each examination, you will have an entire class period (2.5 hours) to complete all problems and submit your work. Each examination is worth 25 points.

B) Point Allocation

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments (5 @ 5pts each)</td>
<td>25 points</td>
</tr>
<tr>
<td>Research Project</td>
<td>25 points</td>
</tr>
<tr>
<td>Midterm Examination</td>
<td>25 points</td>
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<tr>
<td>Final Examination</td>
<td>25 points</td>
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<tr>
<td>TOTAL</td>
<td>100 points</td>
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C) Grade Distribution

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100</td>
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<tr>
<td>B</td>
<td>80-89</td>
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<tr>
<td>C</td>
<td>70-79</td>
</tr>
<tr>
<td>D</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>Below 60</td>
</tr>
</tbody>
</table>

IX. Course Schedule and Policies

A) Course Schedule

See schedule for the current academic semester included at the end of this syllabus. All dates included in the schedule are tentative as we may need to make adjustments based on how we are progressing as a class each week. Advance notice will be give before any changes are made to the schedule.

B) Course Policies

Attendance

Students are expected to attend each scheduled class session. While I believe class attendance to be important, I also realize that as adult learners, students have lives and responsibilities outside the classroom. When unexpected events or emergencies such as personal illnesses, family crises, or a death in the family arise, I ask that you communicate with me as soon as possible so that I am aware of the situation and we can work together to devise a mutually agreeable course of action. Under these circumstances, absences will be considered “excused” upon receipt of appropriate documentation (doctor’s note, court paperwork, obituary, etc.) and written approval from your instructor. Additional excused absences will be granted for participation in a religious holy day as outlined in the University catalog.
For absences that are not excused, the following attendance policies are in place:

- Students are permitted only one unexcused absence without penalty during the semester. Upon a second unexcused absence, students will incur a 10% reduction in their final grade.
- Following a third unexcused absence, students will either receive a failing grade for the course or be administratively dropped from the course.
- Arriving late or leaving early to class is discouraged. Two such instances will count as an unexcused absence.
- Students sleeping or acting unprofessionally in class will be asked to leave. Should a dismissal result in the student missing more than 50% of the class period, an unexcused absence will be issued.

**Professionalism**

By enrolling in a graduate program, you have begun your professional career. As such, the expectation is that you will conduct yourself as a professional. A significant part of being a professional is being respectful to your peers and instructor at all times. Examples of disrespectful, and unprofessional, behavior include: talking in class, not paying attention, criticizing others’ thoughts and beliefs, falling asleep, or texting/talking on a phone. While it is understandable that there may be times when you are not in total agreement with your peers or instructor, respect for the academic environment and the professional degree being pursued should **always** be acknowledged.

**Statement of Civility**

Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. The University’s goal is to provide you with a high quality educational experience that is free from repression. To assist in meeting this goal, you are responsible for following the rules of the University, city, state, and federal government. You are expected to behave in a manner that is dignified, respectful, and courteous to all people; regardless of gender, ethnic/racial origin, religious background, age, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

**Late Submissions of Student Work**

All assignments are to be submitted online to the course Blackboard page prior to the beginning of class on the due date specified in the course calendar (see end of syllabus). Assignments not received prior to the beginning of class will be considered late. A letter grade deduction will be applied to all late submissions that were not discussed with your instructor in advance. Assignments not turned in 30 days after the due date will no longer be accepted and students will receive a zero for that particular assignment.

**Extra Credit**

As a general rule, extra credit opportunities will not be extended in this course. Course grades
should be reflective of the proficiency level students are able to demonstrate through all course assignments and assessments. Requests to award additional points without just cause or to assign alternative/additional work for credit will be denied.

**Academic Integrity and Plagiarism**

*TAMUCC (2009) Graduate Catalogue (2009-2010), pp. 28-29*

University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, forgery, or plagiarism (plagiarism is the presentation of the work of another as one's own work).

Disciplinary action for academic misconduct is the responsibility of the faculty member assigned to the course. The faculty member is charged with assessing the gravity of any case of academic dishonesty, and with giving sanction to any student involved. Penalties that the instructor might possibly apply to individual cases of academic dishonesty include:

- Written reprimand
- Requirement to re-do work in question
- Requirement to submit additional work
- Lowering of grade on work in question
- Assigning grade of "F" to work in question
- Assigning grade of "F" for course
- Recommendation for more severe punishment, such as dismissal from program or University

If the faculty member determines that assigning a grade of "F" to the course is the appropriate penalty and this disciplinary action occurs prior to the deadline for dropping courses, the student forfeits his/her right to drop the course in question.

If the faculty member recommends more severe punishment, such as dismissal from the program or from the University, the faculty member will notify the appropriate chair/college dean, who in turn will notify the Office of Student Affairs. If dismissal from the University is recommended, the Office of Student Affairs will follow its procedure for such cases.

The faculty member must file a record for each case of academic dishonesty, including a description of the disciplinary action taken, along with any materials involved, with his or her college dean, who will forward a copy to the Office of Student Affairs. The office of the academic dean of the college in which the offense took place will maintain records of all cases of academic dishonesty reported for a period of five years. The Office of Student Affairs will also maintain records of such cases for a period of five years. The Office of Student Affairs will inform the Graduate Dean as appropriate.

Any student who has been penalized for academic dishonesty has the right to appeal the judgment or the penalty assessed. Students who wish to appeal an academic dishonesty decision
should contact the Office of Student Affairs for guidance on the appropriate steps for initiating the process.

**Dropping a Class**

My hope is that you never find it necessary to drop this or any other class during your program of study. With that being said, I realize events sometimes occur that make dropping a course a necessary and wise decision. If you ever find yourself in a situation like this, I ask that you consult with me before you decide to drop the course to be sure it is your best option. Should dropping the course prove to be the best action for you to take, it is your responsibility to initiate the drop process by going to the Student Services Center and filling out a course drop form. Simply discontinuing your attendance and participation WILL NOT automatically result in your being dropped from the class, and a final grade will be issued.

**Communication**

Each TAMUCC student has access to an individual e-mail account assigned to them by the university. This is the primary method through which your instructor will communicate with you throughout the semester. At the beginning of the course, students should make sure they have activated their account and make plans to check the account regularly. Students can expect to receive a response to their queries from their instructor within 48 hours (excluding weekends and university-recognized holidays).

**X. Textbooks**

**Required:**


**Statistical Software Package:**

SPSS® Graduate Pack V.20.0 or higher (Software is also loaded on several computers on campus for your use)

**Optional (recommended but NOT required):**

XI. Bibliography


XII. 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 13.02.99.C2, Student Grade Appeals, and University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Office of Student Affairs.

XIII. 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 Disability Services at (361) 825-5816 or visit their office in Corpus Christi Hall, Room #116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office at (361) 825-5816.

XIV. 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.

XV. Course Assignment Evaluation Rubrics

(See course Blackboard page for rubrics and additional information on assignments and projects)
## Tentative Course Schedule (Fall 2016)

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic and Assigned Readings</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUG 30</td>
<td>Course orientation</td>
</tr>
<tr>
<td></td>
<td>Research overview and standards of ethical practice</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapter 1</td>
</tr>
<tr>
<td></td>
<td><strong>Homework Assignment #1 (due: SEP 06 @ 7:00pm)</strong></td>
</tr>
<tr>
<td>SEP 06</td>
<td>Evaluating research</td>
</tr>
<tr>
<td></td>
<td>Reliability and validity</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapters 2 &amp; 3</td>
</tr>
<tr>
<td>SEP 13</td>
<td>Introduction to research designs</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapters 4-11</td>
</tr>
<tr>
<td>SEP 20</td>
<td>Introduction to research designs</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapters 4-11</td>
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<tr>
<td></td>
<td><strong>Homework Assignment #2 (due: SEP 27 @ 7:00pm)</strong></td>
</tr>
<tr>
<td>SEP 27</td>
<td>Introduction to research designs</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapters 4-11</td>
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<tr>
<td></td>
<td><strong>Homework Assignment #3 (due: OCT 04 @ 7:00pm)</strong></td>
</tr>
<tr>
<td>OCT 04</td>
<td>Frequencies and score distributions (representing data)</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapter 5</td>
</tr>
<tr>
<td>OCT 11</td>
<td><strong>MIDTERM EXAMINATION</strong></td>
</tr>
<tr>
<td>OCT 18</td>
<td>Introduction to SPSS</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Field Chapters 3 &amp; 4</td>
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<tr>
<td>OCT 25</td>
<td>Measures of central tendency, variability, and standard scores</td>
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<td></td>
<td><strong>Reading:</strong> Field Chapter 1</td>
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<td></td>
<td><strong>Homework Assignment #4 (due: NOV 01 @ 7:00pm)</strong></td>
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<tr>
<td>NOV 01</td>
<td>Distributions and hypothesis testing</td>
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<tr>
<td></td>
<td><strong>Reading:</strong> Field Chapter 2</td>
</tr>
<tr>
<td>NOV 08</td>
<td>Distributions and hypothesis testing</td>
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<tr>
<td></td>
<td><strong>Reading:</strong> Field Chapter 9</td>
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<td></td>
<td><strong>Homework Assignment #5 (due: NOV 15 @ 7:00pm)</strong></td>
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<tr>
<td>NOV 15</td>
<td>Confidence intervals and estimation</td>
</tr>
<tr>
<td>NOV 22</td>
<td><strong>NO CLASS – Thanksgiving Break</strong></td>
</tr>
<tr>
<td>NOV 29</td>
<td>Correlational designs and basic regression analyses</td>
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<tr>
<td></td>
<td><strong>Reading:</strong> Adams &amp; Lawrence Chapter 12</td>
</tr>
<tr>
<td></td>
<td><strong>Reading:</strong> Field Chapter 6</td>
</tr>
<tr>
<td></td>
<td><strong>Final Project (due: DEC 02 at 11:59pm)</strong></td>
</tr>
<tr>
<td>DEC 06</td>
<td><strong>FINAL EXAMINATION</strong></td>
</tr>
</tbody>
</table>

*All assignments should be uploaded to Blackboard as MS Word documents*