Research Design & Statistics

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., Statistical Package for the Social Sciences [SPSS]).

Learning Objectives

Upon completion of the course, students will be able to:

• Explain the basic ethical principles underlying human subject research as evidenced by a score of 80 or higher on assignment #1 (CITI human subject research online training course completion).

• Describe the flow of logic in research process as evidenced by a score of 80 or higher on assignment #2 (creating theory-based research hypotheses).

• Discuss the appropriate use of quantitative and qualitative research designs as evidenced by a score of 80 of higher on assignment #3 (selecting research designs).

• Create measurable research questions as evidenced by a score of 80 or higher on assignment #4 (writing design-specific research questions).

• Evaluate the strengths and weaknesses of research designs employed in research studies published in the counseling literature as evidenced by a score of 80 or higher on assignment #5 (critically reading articles).

• Calculate descriptive and inferential statistics commonly used in counseling research as evidenced by a score of 80 or higher on assignment #6 (applying descriptive and inferential statistics).

• Compute basic statistical analyses utilized in correlation and regression designs as evidenced by a score of 80 or higher on assignment #7 (correlation and regression).

• Compute basic statistical analyses utilized in two-group designs as evidenced by a score of 80 or higher on assignment #8 (t-tests and hypothesis testing).
Major Course Requirements

1) Application Assignments (200 points; 8 assignments @ 25 points each)

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. Students should upload all submissions to Blackboard by the due date specified online and in the course schedule.

2) Learning Quizzes (200 points; 10 quizzes @ 20 points each)

A series of 10 learning quizzes will be administered throughout the semester on a weekly basis beginning with week 2 to afford students the opportunity to demonstrate their learning and understanding of the various research and statistical concepts introduced in class. Quiz questions will be presented in either multiple choice or short-answer format, and reflect only the material discussed during the previous week (not cumulative). Quizzes will be administered at the beginning of class on the dates specified in the course schedule. Students absent from, or late to class, forfeit the opportunity to earn points on quizzes missed.

3) Final Examination (100 points)

At the end of the semester, students will take a final examination requiring them to demonstrate their ability to apply the knowledge of research and statistics they acquired throughout the semester. The examination will be in a multiple question style format (fill-in-the-blank, matching, multiple choice, and short answer), with questions being drawn from class lectures, notes, and assigned textbook readings. A study guide will be distributed during the semester with additional instructions to help students better prepare for this examination.

Point Allocation

<table>
<thead>
<tr>
<th>Application Assignments</th>
<th>200 points</th>
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<tbody>
<tr>
<td>Learning Quizzes</td>
<td>200 points</td>
</tr>
<tr>
<td>Final Examination</td>
<td>100 points</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>500 points</strong></td>
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Grade Distribution

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
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</thead>
<tbody>
<tr>
<td>450-500</td>
<td>400-449</td>
<td>350-399</td>
<td>300-349</td>
<td>Below 300</td>
</tr>
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Required or Recommended Readings

Textbook:


Statistical Software Package:
SPSS® Graduate Pack V.23.0 or higher (Software is also loaded on several computers on campus for your use)

Recommended or supplemental readings:


**State Adopted Proficiencies for School Counselors**

**School Counselor Standard I: Learner-Centered Knowledge**
The professional school counselor must have a broad knowledge base.

**School Counselor Standard II: Learner-Centered Skills**
The professional school counselor applies the knowledge base to promote the educational, personal, social, and career development of the learner.

**School Counselor Standard III: Learner-Centered Process**
The professional school counselor participates in the development, monitoring, and evaluation of a developmental school guidance and counseling program that promotes learners’ knowledge, skills, motivation, and personal growth.

**School Counselor Standard IV: Learner-Centered Equity and Excellence for All Learners**
The professional school counselor promotes academic success for all learners by acknowledging, respecting, and responding to diversity while building on similarities that bond all people.

**School Counselor Standard V: Learner-Centered Communications**
The professional school counselor, an advocate for all students and the school, demonstrates effective professional and interpersonal communication skills.

**School Counselor Standard VI: Learner-Centered Professional Development**
The professional school counselor pursues continuous professional development, demonstrating a commitment to learn, to improve the profession, and to model professional ethics and personal integrity.

**TExES Competencies (COE)**

**Competency 004 (Program Management):** The school counselor understands how to plan, implement, and evaluate a developmental guidance program, including counseling services, which promotes all students' success.

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

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

This course is designed to meet 2016 CACREP standards included in Section 6 (doctoral professional identity). The following standards are covered in this course, with standards shown in **bold type** representing 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.

**Course Policies**

**Attendance**

I expect students to attend each scheduled class session. While I believe class attendance important, I also realize that as adult learners, students have lives and responsibilities outside the classroom that at times may take precedent. 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, I will consider absences “excused” upon receipt of appropriate documentation (doctor’s note, court paperwork, obituary, etc.) and written approval from your instructor. I will grant additional excused absences for participation in a religious holy day as outlined in the University catalog if addressed in advance.

For absences that are **not** excused, the follow 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 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.

*Please note, unexcused absences may adversely affect your performance as quizzes missed or failure to submit assignments by their due date will result in a grade reduction.*

**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 I 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 a response to their questions from me within 48 hours (excluding weekends & university-recognized holidays).

**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. After five days, late assignments will no longer be accepted and a grade of zero will be issued.

**Extra Credit**

Generally, 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**


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

I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with me before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, YOU must initiate the process to drop the course 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 you being dropped from the class. November 15th is the last day to drop a course with an automatic grade of “W” this term.

Classroom/Professional Behavior

Texas A&M University-Corpus Christi, as an academic community, requires individuals to respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional
program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

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.

Grade Appeals

As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, 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 Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules Web site at http://www.tamucc.edu/provost/university_rules/index.html. For assistance and/or guidance in the grade appeal process, students may contact the Dean’s office in the college in which the course is taught or the Office of the Provost.

Disabilities 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 Corpus Christi Hall 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 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.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic and Assigned Readings</th>
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<tbody>
<tr>
<td>AUG 30</td>
<td>Course orientation; Research overview and standards of ethical practice</td>
</tr>
<tr>
<td></td>
<td>Reading: Adams &amp; Lawrence Chapter 1</td>
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<tr>
<td>SEP 6</td>
<td>Reviewing the professional literature; Epistemology and theoretical orientation</td>
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<tr>
<td></td>
<td>Reading: Adams &amp; Lawrence Chapter 14</td>
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<td>Homework Assignment #1 (due: SEP 06 @ 7:00pm)</td>
</tr>
<tr>
<td>SEP 13</td>
<td>Introduction to research designs</td>
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<tr>
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<td>Reading: Adams &amp; Lawrence Chapters 4-11</td>
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<tr>
<td></td>
<td>Homework Assignment #2 (due: SEP 13 @ 7:00pm)</td>
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<tr>
<td>SEP 20</td>
<td>Introduction to research designs</td>
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<td>Reading: Adams &amp; Lawrence Chapters 4-11</td>
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<tr>
<td>SEP 27</td>
<td>Introduction to research designs</td>
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<td>Reading: Adams &amp; Lawrence Chapters 4-11</td>
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<tr>
<td>OCT 04</td>
<td>NO CLASS MEETING SCHEDULED (online activity)</td>
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<tr>
<td>OCT 11</td>
<td>Developing research hypotheses and questions</td>
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<td>Homework Assignment #3 (due: OCT 11 @ 7:00pm)</td>
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<td>OCT 18</td>
<td>Evaluating existing research in the professional literature</td>
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<td>Reading: Adams &amp; Lawrence Chapter 2</td>
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<td>Homework Assignment #4 (due: OCT 18 @ 7:00pm)</td>
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<tr>
<td>OCT 25</td>
<td>Introduction to SPSS; statistics primer</td>
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<td>Reading: Field Chapters 3 &amp; 4</td>
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<td></td>
<td>Homework Assignment #5 (due: OCT 25 @ 7:00pm)</td>
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<tr>
<td>NOV 01</td>
<td>Measures of central tendency, variability, and standard scores</td>
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<td>Reading: Field Chapter 1</td>
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<td>Homework Assignment #6 (due: NOV 01 @ 7:00pm)</td>
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<tr>
<td>NOV 08</td>
<td>Distributions and hypothesis testing</td>
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<td>Reading: Field Chapters 2 &amp; 9</td>
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<td>Homework Assignment #7 (due: NOV 08 @ 7:00pm)</td>
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<td>NOV 15</td>
<td>NO CLASS MEETING SCHEDULED (online activity)</td>
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<tr>
<td>NOV 22</td>
<td>NO CLASS MEETING SCHEDULED (Thanksgiving break)</td>
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<tr>
<td>NOV 29</td>
<td>Correlational designs and basic regression analyses</td>
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<td>Reading: Field Chapter 6</td>
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<td></td>
<td>Homework Assignment #8 (due: NOV 29 @ 7:00pm)</td>
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<tr>
<td>DEC 06</td>
<td>FINAL EXAMINATION</td>
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