

Wake Forest University
Department of Counseling
CNS 721: Research and Statistical Analysis in Counseling
Fall 2015
8:30 – 11:00 a.m. Mondays
Location: Carswell 205

Course Overview and Methods of Instruction:

This course will provide you with an overview of statistics and research in counseling. It will combine reading of the required text, journal articles and other selected publications, lectures, discussion, small group activities, and student presentations to help students learn and assimilate the key statistics and research principles necessary to successfully complete the Masters in Counseling program and practice as professional mental health or school counselor. Enhancing your understanding of basic statistical concepts as well as methods for integrating research in practice will be features elements of this course.

Course Content and CACREP Standards:

This content of the course is designed to meet the Council for Accreditation of Counseling and Related Educational Programs (CACREP) standards from Section 2, Professional Identity (<http://www.cacrep.org/about-cacrep/2016-cacrep-standards/>), under the subheading 8 entitled Research and Program Evaluation: studies that provide an understanding of research methods, statistical analysis, needs assessment, and program evaluation, including all of the following:

- The importance of research in advancing the counseling profession;
- Research methods such as qualitative, quantitative, single-case designs, action research, and outcome-based research;
- Statistical methods used in conducting research and program evaluation;
- Principles, models, and applications of needs assessment, program evaluation, and the use of findings to effect program modifications;
- The use of research to inform evidence-based practice; and
- Ethical and culturally relevant strategies for interpreting and reporting the results of research and/or program evaluation studies.

Required Text:

Creswell, J. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson Education.

Supplemental Text

Aron, A., Coups, E. J., & Aron, E. N. (2011). *Statistics for the behavioral and social sciences: A brief course* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Email:

So that we may stay in regular contact, it is important to know the typical manner in which information related to the class will be communicated. Correspondence and notices related to this course will be sent to your WFU email account or Sakai. In order to ensure you are aware of the happenings in and between classes, be sure to check these accounts on a regular basis (daily preferred) to receive notices related to the course.

Sakai:

The syllabus, updates, announcements, reading materials, and other materials related to the course will be made available through the Sakai application. Please make sure you have access to Sakai by the second week of classes. If you have any problems, contact The Bridge at the ZSR Library 336-758-4357 or help.wfu.edu.

Student Responsibilities:

This success of this course will depend largely on your active engagement with the instructor and your fellow aspiring counselors around the subject matter of research and statistical analysis in counseling. The class meetings will involve my imparting information as well as a significant amount of processing of the information conveyed in lectures, readings, etc. To ensure you understand what is expected of you, here are things you are responsible for during our time together in the course.

As a student taking this course, you are responsible for:

1. Regular class attendance and **active** participation in all classroom activities (discussions, presentations, exercises, etc.). Your attendance and active participation are critical to your own learning as well as the learning of your peers and the overall success of the course.
2. Completion of all required assignments and submission of completed assignments in accordance with established due dates.

Accommodations/Disability Statement:

Wake Forest University recognizes its responsibility for creating an institutional climate in which students with disabilities can thrive. In accordance with University policy, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the instructor and the Learning Assistance Center (LAC) at the beginning of the semester. Students with disabilities must verify their eligibility through the LAC in 117 Reynolda Hall (336) 758-5929.

Academic Integrity:

Students are expected to complete all work for this course in compliance with the WFU honor code. If you are unfamiliar with this policy, you should consult the Judicial Affairs website at <http://www.wfu.edu/studentlife/judicial/students.html>. All work handed in for this course must be the student's own work. When writing or presenting about ideas that are not your own, you must properly cite the author(s). **Note:** Failure to give credit to other people for their ideas and work is plagiarism and is a violation of the WFU honor code and will result in a grade of 0 for that assignment along with other potential penalties.

Student performance evaluation criteria:

- **Class Participation and Attendance (15 points):** As indicated before in the syllabus, full realization of the potential for the course will depend largely on your active

involvement in discussions, group activities, etc. With this in mind, class participation is required. Given that we only meet one day a week, regular attendance is necessary to ensure you are receiving the necessary information for the course. It is understood that life happens, therefore one absence will be excused without penalty. Every subsequent absence will result in a 2 point deduction in your final grade. Four or more absences may result in failure to receive credit for the course. Excessive tardiness and/or unprofessional behavior (e.g., use of unrelated technology such as cell phones and other handheld devices, your laptop computer for internet access, etc. during class) also will negatively impact your grade. In order to participate effectively, you should complete the assigned readings (and problems, if applicable) prior to class. Written assignments due on a given day should be turned in as paper copies (i.e., not electronic copies) on the day they are due at the beginning of class. Those submitted late will result in a half grade deduction for each day submitted past the due date. Please bring the required textbook and a basic calculator to class.

Computers and other technology used during our class meetings are to solely support your learning of the subject matter. Activities beyond enhancing your learning (social media, instant messenger, etc.) in class are not appropriate mean for using cell phones, computers, and tablets. Being fully present and attending to the information shared in our class meeting is of critical important both to your success in the course as well as in your understanding of research and statistical analysis within the field of counseling.

- **Protection of Human Subjects Certification (5 points)** – due Sept. 14 (Week 3): This assignment is designed to inform you about the rights and welfare of human participants in research. Complete the tutorial and online quizzes at citiprogram.org. See Attachment 1 for instructions. Remember, you must turn in the printed certificate of completion as evidence of completing the assignment. This assignment will be explained in class in detail on Aug. 31(Week 1).
- **Program Evaluation Case Study (15 points)** due Nov. 30 (week 14) – Respond to the questions below related to the following scenario:

Steve is in his first year as the school counselor at a local elementary school. After conducting a needs assessment and receiving feedback from teachers and administrators, he learns that there are a high number of discipline referrals resulting from off-task classroom behaviors among first grade boys. Steve has decided to implement a peer mentoring/reading program to connect the targeted first-graders with male role models in the fourth and fifth grades. The program will be implemented over the course of 8 weeks with 10 first grade boys being paired with 10 fourth and fifth grade boys. The pairs will meet weekly for 20 minutes of reading time and positive social interaction. Steve expects that discipline referrals will decrease and on-task behaviors will increase as a result of the intervention.

- How specifically might Steve evaluate the peer mentoring/reading program?
- Is there a particular research method (e.g., experimental, survey) you might use to analyze the effectiveness of this program? If so, why?
- Briefly describe how you might conduct a needs assessment in a school setting. For example, how might you collect the data (e.g., surveys, checklist, interviews).

- What questions might you ask to gather data (list at least two questions) and from whom would you gather data?

Paper should be 1 ½ to 2 pages in length

- **Multifaceted Research Project (65 total points)** – see below for due dates: This multifaceted project is designed to provide you with an in-depth research experience in which you will select a mental health disorder of your choice from the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (see Attachment 2), conduct a literature search and develop a reference list on your disorder, write a moderate length literature review, present a synopsis of your review to the class using PowerPoint, and present a poster on your topic to 2nd year counseling graduate students and faculty.
 - **Research Project Ideas (5 points)** – due Sept. 7 (Week 2): identify three mental health disorders from the DSM-5 (Appendix 2) that interest you. You have likely come into the program having been exposed to various mental health disorders; disorders that you may have experienced personally, or perhaps experienced by family members, friends, or coworkers. You will be spending a lot of time researching the disorder you choose, so it might be useful to choose something that is of personal and professional interest to you. Summarize the disorders you've chosen in a paper of 500 words or less. Briefly answer the following questions *for each*: 1) What is the disorder that interests you; 2) Why is it interesting to you; 3) What are some subtopics within this area that you would like to explore (e.g., a certain counseling approach, individual counseling, group counseling, medications ... you don't have to be overly specific, rather, I want you to start thinking about the disorder more narrowly ... we'll discuss this more in class). This assignment will be discussed in detail on Sept. 1 (Week 1). Once you've turned this assignment in, I'll let you know ASAP which of the three disorders you'll be researching (note: I want each student to research a unique disorder).
 - **Reference List (10 points)** – due Sept. 28 (Week 5): conduct a literature search using PsycINFO and PubMed (both are required databases for your lit. review) (see Attachment 3 for helpful hints). Another database that may be useful is ERIC, especially if the disorder you choose is common to children or adolescents. Other databases discussed in class can also be used. Choose citations published from 2005-present. You will want to review the *abstracts* from at least 25 citations, however you must choose only 10-12 citations for the reference list you turn in. The citations should include book chapters, review articles, and original research articles from peer-reviewed, professional journals from the fields of counseling, psychology, social work, psychiatry, or similar professional disciplines. In addition, you should definitely use the DSM-5 as one of the books you cite (see bottom of Attachment 2 for proper citation of the DSM-5). We will spend much of week 2 demonstrating how to conduct a literature search. This assignment will be discussed in detail on Sept. 7 (Week 2).
 - **Literature Review (20 points)** – due Oct. 12 (Week 7): your literature review should be at least 10 pages and no more than 15 pages in length, with the following guidelines:

- Use APA format (6th edition), Arial or Times New Roman font, size 11 or 12, double spaced, standard MS Word document margins
- Page 1 should be the title page
- Page 2 should be the abstract page (should not exceed one page). This is a summary of your lit review.
- Pages 3 through 8-13 should contain the body of the paper, including an introduction that provides background information and discusses the significance of the disorder you're writing about (usually 1-2 pages), methods section to include the key words and search strategies you found most useful, databases that provided the most or best citations ... i.e., if someone else was going to do a lit. review on this topic, what advice would you give them to conduct the most thorough search possible in the most efficient way (up to 1 page), results section (5-10 pages, may be divided into subsections ... should include info from the DSM-5 on your disorder as well as other aspects of the disorder that you've summarized from your lit. search), and discussion including recommendations for future research and study (usually 1-2 pages)
- The last two pages should be for references, listed in APA format

I will distribute an example of a literature review in class to help guide you. This assignment will be discussed in detail on Sept. 21 (Week 4).

- **Oral Presentation Part I – PowerPoint Presentation (15 points)** – due either Oct. 26 (Week 9), Nov. 2 (Week 10), or Nov. 9 (Week 11): the PowerPoint presentation must be 15 minutes in length (see guidelines below), *including* 2-3 minutes for questions at the end of the presentation. The content of your slides (maximum number 12 slides following the “one slide per minute” rule) will come from your literature review as described below:
 - Slide 1 should be the title slide
 - Slide 2 should provide some element of introductory/background information; why is this disorder significant?
 - Slide 4 should describe the methods of your literature review (e.g., key words or search terms, most common journal(s) cited, and anything else you think would help someone in the future conduct a literature review on the same topic)
 - Slides 5-8 should summarize the results (hint: you don't need to discuss every aspect of you lit. review's results section)
 - Slides 9-10 should summarize your discussion/conclusions (again, selected aspects are okay)
 - Slide 11 should reflect ideas and recommendations for future study and research (hint: spend some time thinking about the content of this slide as one of the ideas/recommendations you present will likely be the basis for your grant proposal assignment)
 - Slide 12 should have selected references

In addition, you must provide your classmates and me with a PowerPoint handout of your presentation (6 on 1 format, double sided copy). This assignment will be discussed in detail on Oct. 5 (Week 6).

| | | | | |
|---------------------------------|--|---|--|-----------------------------|
| Aug. 31 Week 1 | Welcome! Review of Syllabus Assignment discussion: Research Certification Assignment discussion: Research Project Idea Assignment discussion: Reference List Small Group Discussion: Research Ideas | | | Section 2, F, 8 (a,b) |
| Sept 7 Week 2 (Labor Day) | Complete PPT from readings on Process of Research/Identifying the Research Problem | Creswell Ch. 1 & 2 | Turn in research ideas (e-mail) | Section 2, F, 8 (a,b,e) |
| Sept 14 Week 3 | In-class demonstration of PubMed/PsychInfo (Bring computer to class) Lecture: Follow up discussion on Process of Research/identifying the Research Problem Reviewing the Literature/Research Questions and Hypotheses Level of Evidence Examples of Class I, II, and III | Creswell Ch. 3 & 4 | Turn in certificate of completion of online research certification | Section 2, F, 8 (b,e,f) |
| Sept 21 Week 4 | Assignment Discussion: Literature Review Lecture: Quantitative Data How to Critique a Research Article Proper Citation vs. Plagiarism Visiting Speaker: Research in Practice Small Group Discussion: Resources for Research Project | Creswell Ch. 5 & 6 (pp. 183-187) Supplemental Aron, Coups, & Aron Ch. 1 & 2 | | Section 2, F, 8 (b,c,e,g,i) |
| Sept 28 Week 5 | Quiz 1 – Basic Research Principles (questions from Weeks 1-4) Lecture: Reliability and Correlation | Ch. 5 (pp. 159-162) Rudner & Schafer Article Supplemental Aron, Coups, & Aron Ch. 3 (pp. 63-85) | Turn in Reference List | Section 2, F, 8 (b,c,d,h) |
| Oct. 5 Week 6 | Lecture: Inferential Statistics Assignment Discussion: Oral Presentation, PowerPoint Handout, | Creswell Ch. 6 (187-195) | | Section 2, F, 8 (h,i,j) |

| | | | | |
|--------------------|---|---|--|-----------------------------|
| | and Poster Formatting, Printing, and Display | Supplemental Aron, Coups, & Aron Ch. 4 & 5 | | |
| Oct. 12 Week 7 | Lecture: Inferential Statistics (T-tests and Chi Square) Small Group Discussion: Sharing Findings with Colleagues | Aron, Coups, & Aron Ch. 8 (pp. 235-263) Supplemental Ch. 9, 11 (pp. 365-372) | Turn in Literature Review | Section 2, F, 8 (h,i,j) |
| Oct 19 Week 8 | Lecture: Qualitative Data | Creswell Ch. 7 | | Section 2, F, 8 (b,f,g,i,j) |
| Oct. 26 Week 9 | Oral Presentations (3) Lecture: Qualitative Data | Creswell Ch. 8 | Oral presenters – provide PowerPoint handout for classmate and instructor | Section 2, F, 8 (b,f,g,i,j) |
| Nov. 2 Week 10 | Oral Presentations (6) Lecture: Review and Catch-up | No readings | Oral presenters – provide PowerPoint handout for classmate and instructor | |
| Nov. 9 Week 11 | Oral Presentations (6) Lecture: Review and Catch-up | No readings | Oral presenters – provide PowerPoint handout for classmate and instructor | |
| Nov. 16 Week 12 | Quiz 2 – Statistics (questions from weeks 5-9) Lecture: Experiential Designs/Correlational Designs | Creswell Ch. 10 & 11 | | Section 2, F, 8 (g,i,j) |
| Nov. 23 Week 13 | Lecture: Survey Design and Action Research/Program Evaluation Study Hints for Final Exam Poster displays/discussion for 2nd year students and faculty | Creswell 12 & 17 Astramovich & Coker Article | Set-up poster in Carswell 111 - Annenberg Forum at 3:45 p.m. -Provide handout of poster for | Section 2, F, 8 (g,i,j) |

| | | | | |
|--------------------|--|---|--|-------------------------|
| | | | classmates and faculty (4:15 p.m. to 4:45 p.m.). | |
| Nov. 30 Week 14 | Lecture: Grounded Theory Design/Ethnographic Design/Narrative Design/Mixed Design Small Group Discussion: So What? | Creswell Ch. 13, 14, 15, 16 (Choose ONE chapter to read) | Turn in Program Evaluation Case Study | Section 2, F, 8 (g,i,j) |
| Dec. 7 Week 15 | In-Class Final Exam (Closed Book) | | | |

Emergency Contingency Plan: The emergency contingency plan for this course is as follows: In the event that the University is closed for an emergency, students will be able and expected to keep up with their coursework, as all documents and materials will be made available online on the course website. It is suggested that all materials be downloaded. Student work will be submitted via email, and the instructor will be available through email, instant messaging, and Skype. If Internet access is limited, work can be submitted via snail mail, and access to the instructor's home address and telephone numbers will be provided. If there is a continued need to cancel class, the due dates for assignments may be pushed back.

In the event of a pandemic, we will use [Sakai](#) to complete the course. Please follow the list of assignments on the syllabus, and download assignments as soon as they are posted. If the internet is not operating, you can mail quizzes, legal issues write-ups, papers, and the final test to me at:

Seth Hayden
Dept. of Counseling
PO Box 7406
Wake Forest University
Winston-Salem, NC 27109

Attachment 1: Instructions for Protection of Human Subjects Certification Assignment

Due Sept. 14 (Week 3), this assignment is designed to inform you about the rights and welfare of human participants in research. Begin the tutorial and online quizzes by going to citiprogram.org. Register as a new user. Follow these instructions:

- Step 1: Under “Participating Institutions”, select Wake Forest University
- Step 2: Create a username and password
- Step 3: Create a security question and answer
- Step 4: Enter your name
- Step 5: Enter your Wake Forest University email address
- Step 6: Answer “no” to question about CME/CEU credits
- Step 7: Answer “yes” or “no” depending on your preference, then submit
- Next: Complete information page required by Wake Forest University. Use your Wake Forest University email address, and select “Student Researcher – Graduate” for question about role in research. Submit.
- Next: Answer “Group 1” for the first question, “I have not previously completed an approved basic course” for the second question, and “Not at this time, thank you” for the third question. Submit.
- Next: Answer “No” to the next question.
- Next: At this time, you should come to a screen that has your name and ID# at the top. In the middle of the page, under the “My Courses” column, it should say “Group 1, Graduate Students, Faculty and Staff, Basic Course”. The very next column, “Status”, should say “Not started – Enter” in red letters. Click on “Enter”. Proceed with taking the “Required Modules” and then one of the “Elective Modules”.
- Last: As evidence of completion, turn in the printed certificate of completion at the beginning of class on Sept. 14

Attachment 2: Selected DSM-5 Mental Health Diagnoses*

Agoraphobia
 Alcohol Use/Abuse/Dependence/Intoxication/Withdrawal
 Amphetamine Use/Abuse/Dependence/Intoxication/Withdrawal
 Anorexia Nervosa
 Attention Deficit Hyperactivity Disorder
 Autistic Disorder
 Avoidant Personality Disorder
 Antisocial Personality Disorder
 Anxiolytic (Benzodiazepine) Use/Abuse/Dependence/Intoxication/Withdrawal
 Bipolar I Disorder
 Bipolar II Disorder
 Borderline Personality Disorder
 Bulimia Nervosa
 Cocaine Use/Abuse/Dependence/Intoxication/Withdrawal
 Conduct Disorder
 Delirium
 Dementia of the Alzheimer's Type
 Dementia Due to Creutzfeldt-Jakob Disease
 Dementia Due to Huntington's Disease
 Dissociative Identity Disorder
 Generalized Anxiety Disorder
 Insomnia
 Major Depressive Disorder
 Obsessive-Compulsive Disorder
 Obsessive-Compulsive Personality Disorder
 Opioid Use/Abuse/Dependence/Intoxication/Withdrawal
 Oppositional Defiant Disorder
 Panic Disorder
 Post-Traumatic Stress Disorder
 Schizotypal Personality Disorder
 Schizophrenia
 Sedative/Hypnotic/Anxiolytic (Benzodiazepine)
 Use/Abuse/Dependence/Intoxication/Withdrawal
 Tourette's Disorder

*Modified from American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders* (5th ed). Washington, DC: Author.

Attachment 3: Literature Search Tips for PsycINFO and PubMed

Literature Search Strategies for PsycINFO:

Search Terms

1. Go to zsr.wfu.edu/ and click on “DATABASES” tab
2. Type in PsycINFO into keyword dialogue box, then click on PsycINFO, then click on Search.
3. Now click on PsycINFO. You will be prompted to sign in, which you should do. You will now be signed into PsycINFO.
4. Enter the mental health disorder that you wish to research then check the box that says “Suggest subject terms” (it is located just above dialogue box). Now click on the Search tab. You will now come to a thesaurus-like expansion of your mental health diagnosis. Write down 3-6 search terms that further describe the disorder you’ve chosen or different aspects of it. Click on each of these search terms to better define what you might want to research for your chosen mental health disorder.
5. Try and come up with a final list of 3-6 search terms that you will employ in your literature search.

Literature (Citation) Search

6. Return to the PsychINFO homepage. Click on “Advanced Search”, located just under the dialogue boxes at the top of the page.
7. You will now need to select one, two, or three of your search terms in order to produce some research articles and other published documents on the mental health disorder you’ve chosen (a.k.a. citations). For example, if your disorder is depression, you could search “depression” or “depression and counseling” or “depression and suicide and counseling”. This is where you get into the art of doing literature searches ... how you combine terms makes a huge impact on the search outcome.
8. Place limits on your search, such as “Linked full text” and narrow the Publication Year from 2005 to 2015.
9. Your efforts should result in about 25 references. If you get more than this, either add additional search terms or narrow the Publication Year.
10. Click on the title of the citations that look interesting. Read the abstracts of about 25 citations. Choose a subset for your near-final reference list. Keep in mind you must also search PubMed for references, and between PsycINFO and PubMed, you should have 10-12 citations for your final reference list.
11. Be patient ... this is definitely a trial and error process for which practice makes perfect!

Literature Search Strategies for PubMed (note - PubMed does not have a search terms function like PsycINFO, so you’ll go straight to the Literature Search):

Literature (Citation) Search

1. Go to zsr.wfu.edu/ and click on “DATABASES” tab
2. Type in PubMed into keyword dialogue box, then click on MEDLINE - PubMed, then click on Search.
3. You may or may not be prompted to sign in (you may already be signed in from your PsycINFO search). Sign in if necessary.
4. Enter your desired search term(s) in the dialogue box. Do not click on the Search tab yet.

5. Just below dialogue box, click on Limits. Begin by searching for review articles for your mental health disorder. Set the following limits: Published in the Last - click on “10 Years”; Type of Article - click on “Review”; and Text Options - click on “Linked to Full Text”. Now click on the Search tab.
6. Click on the title of the citation to read the abstract. If the abstract inclines you to get the full article, explore Full Text Options in the upper right hand side of the page. If you look to the right of the citation title, there will be related articles that you can click on, read the abstracts, and get the full article. Another way to get related articles is to hit the back arrow until you come to the page which listed the multiple citations for the key words you entered. Below the citation title you’ll see the words “Related Articles”. Click on this ... it will produce a new list that shows you what other research articles have listed the citation you’re exploring.
7. Repeat the above process but remove the limit on the Type of Article (i.e., uncheck “Review”). This will give you a different array of citations related to your search terms.