COURSE SYLLABUS
Lewis & Clark College
Graduate School of Education and Counseling

Course Name	**Research Methods and Statistics II**
Course Number	**CPSY 531 Section 1**
Term	**GS/19**
Department	**Counseling Psychology**
Textbooks/Materials	**Sprinthall, R.C. (2012). *Basic Statistical Analysis*. (9th ed.) Needham Heights, MA: Allyn & Bacon.**
Faculty Name	**Carol Doyle**
Faculty Phone/E-mail	**503 768-6067** **cdoyle@lclark.edu**
Faculty Office	**Rogers Hall 317**
Advising Hours	**Tues, Thurs, by appt Friday 10:00 – 1:00**

Catalogue Description:
Research design and data analysis, inferential statistics. Simple and complex designs, normal distribution, z-test, t-test, analysis of variance, statistical power, simple regression. Overview of nonparametric and multivariate analysis.

Course Description:
This course covers the descriptive and inferential statistics practitioners need for use in their practices. Focus is on understanding and application of basic descriptive and inferential statistics, appropriate interpretation of statistical results, and real-world presentation of data.

Course Goals and Objectives:
The primary goal of this class is to have students gain a conceptual and computational understanding of basic descriptive and inferential statistics as well as developing skill in interpreting those results. As a continuation of CPSY 530, an additional goal is for students to further their understanding of the research process, including issues surrounding measurement, which will allow them to critically analyze published research and/or be able to conduct independent research.

The objectives are to provide opportunities to learn and apply the skills necessary to appropriately conduct basic statistical analyses. Emphasis will be on: data processing, data analysis, appropriate use and interpretation of statistical tests, drawing conclusions from data, validity of conclusions, reporting results, discussion of results, and critiquing research.

By the end of the semester students will be able to

- Define, operationalize, and measure constructs
- Identify and compute descriptive statistics
- Identify data analysis appropriate for different types of research designs.
- Understand the hypothesis testing process
- Write research and null hypotheses
- Understand and compute basic inferential statistics
- Use the computer to perform descriptive and inferential statistical analysis
- Understand and compute reliability analyses

- Draw appropriate conclusions from data analysis
- Use APA style to write up results of statistical analyses.
- Understand the research process and use this understanding to identify strengths and weakness of published research.

From the NASP standards

The following NASP domains are addressed in this course:

2.1 Data-Based Decision Making and Accountability

School psychologists have knowledge of varied models and methods of assessment and data collection for identifying strengths and needs, developing effective services and programs, and measuring progress and outcomes.

2.5 School-Wide Practices to Promote Learning

School Psychologists have knowledge of school and systems structure, organization, and theory; general and special education; technology resources; and evidence-based school practices that promote learning and mental health.

2.9 Research and Program Evaluation

School psychologists have knowledge of research design, statistics, measurement, varied data collection and analysis techniques, and program evaluation sufficient for understanding research and interpreting data in applied settings.

From ACA: Goal Statement

The professional counselor is able to conduct research; interpret clearly the implications of research data to professional staff members, parents, students, clients, referral agencies, and community resources; and use the results in counseling and in program evaluation, program development, and program revision. (Engels, D.W. & Associates (2004). The professional counselor. Portfolio, competencies, performance guidelines and assessment. (3rd ed.) Alexandria, VA: American Counseling Association

Course Calendar:

See attached below

Required Texts:

Sprinthall, R.C.(2012). *Basic Statistical Analysis*. (9th ed.) Needham Heights, MA: Allyn & Bacon.

Supplementary Texts & Workbooks

American Psychological Association (2010). *Publication manual of the American Psychological Association*. (6th Ed.). Washington, DC: American Psychological Association.

Green, S.B. & Salkind, N.J. (2011). *Using SPSS for Windows and Macintosh: Analyzing and Understanding Data. (6th Ed.).* Upper Saddle River NJ: Prentice Hall

Leong & Austin (1996). *The psychology research handbook. A guide for graduate students and research assistants.* Thousand Oaks, CA: Sage Publications

Cone, J.D. & Foster, S.L. (1993). *Dissertations and theses from start to finish*. Washington, DC: American Psychological Association.

Course Requirements: See below

CPSY Departmental Attendance Policy/Requirements:

Class attendance is expected and required. Any missed class time will be made up by completing extra assignments designed by the instructor. Missing more than ten percent of class time ***may*** result in failure to complete the class. This would be 4.5 hours of a 45 hour class (3 credits), 3.0 hours for a 30 hour class (2 credits) or 1.5 hours for a 15 hour class (1 credit.) In case of extreme hardship and also at the discretion of the instructor, a grade of incomplete may be given for an assignment or the entire course. In such cases, the work to be submitted in order to remove the incomplete must be documented appropriately and stated deadlines met. Students are expected to be on time to class and tardiness may be seen as an absence that requires make-up work.

One absence without arrangement or explanation, 2nd absence requires a make-up of class assignments, an additional assignment (such as an additional write up or an article summary) and explanation.

Assignments: The graded requirements of the course differ slightly depending on your program. Overall the requirements of the course include: in class assignments, homework assignments, computer assignments, research write-ups; and group project(s) and/or thesis development.

See attached for specific assignments and points

Evaluation and Assessment:

Each assignment will be graded via a point system. Generally speaking, the following grades can be associated with the points for each assignment and for the final grade

93% of points possible	-	A
90 – 92% points possible	-	A-
88 – 89% or points possible	-	B+
83 - 87% of points possible	-	B
80 – 82% points possible	-	B-
78 – 79% or points possible	-	C+
73 - 77% of points possible	-	C/No Credit
Below 70% of points possible		C-/No Credit

Please note that if the basic requirements for an assignment the points given will be associated with a B+. If one exceeds the requirements of the assignment there point total will improve accordingly. Similarly, if the assignment does not meet the requirements point total will decrease accordingly. The points associated with each assignment are attached.

Late papers and assignments: Any assignments turned in late (without previous permission) will automatically receive a 10% reduction in grade.

Accommodations for Students with Special Needs and/or Disabilities:

If you have a disability that may impact your academic performance, you may request accommodations by submitting documentation to the Student Support Services Office in the Albany Quadrangle (x7156). After you have submitted documentation and filled out paperwork there for the current semester requesting accommodations, staff in that office will notify me of the accommodations for which you are eligible. Please notify me of any special learning considerations that I should be aware of so that we can work together to make the appropriate accommodations.

Authorization Levels: all

Partial Bibliography:

Cone, J.D. & Foster, S.L. (1993). *Dissertations and theses from start to finish*. Washington, DC: American Psychological Association.

Faherty, V.E. (2008). *Compassionate Statistics. Applied Quantitative Analysis for Social Services.* Thousand Oaks, CA: Sage**.**

Galvan, J.L. (2006). *Writing Literature Reviews (3rd Ed.)* Los Angeles: Pyrczak Publishing.

Heppner, P.P., Kivlighan, D. M., & Wampold, B.E. (2008). *Research Design in Counseling* (2nd Ed.). Pacific Grove, CA: Brooks/Cole.

Holcomb, Z.C. (2007). Interpreting Basic Statistics (5th Ed.) A Guide and Workbook Based on Excerpts from Journal Articles. Los Angeles: Pyrczak Publishing.

Holcomb, Z.C. (1997). *Real data. A statistics workbook based on empirical data.* Los Angeles: Pyrczak Publishing.

Holcomb, Z.C. (2007). SPSS Basics: Techniques for a First Course in Statistics (3rd Ed.) Los Angeles: Pyrczak Publishing

Pryzak, F. (2008). Evaluating Research in Academic Journals (4th Ed.) Los Angeles: Pyrczak Publishing.

Patten, M.L. (2009). Understanding Research Methods (7th Ed.) Glendale CA: Pyrczak Publishing

Mertler, C.A. & Vannatta, R. A. (2005). Advanced and Multivariate Statistical Methods. Practical Application and Interpretation (3rd Ed.) Glendale, CA: Pyrczak Publishing

Rosenthal, J.A.(2001). *Statistics and Data Interpretation for the Helping Professions.* Belmont, CA: Wadsworth/Thompson Learning

Rubin, A. (2007). *Statistics for Evidence-Based Practice & Evaluation.* Belmont, CA: Wadsworth/Thompson Learning

Salkind, Neil J. (2014). *Statistics for People Who (Think They) Hate Statistics* (5th Ed). Thousand Oaks, CA: Sage.

Spring Semester 2019 Assignments*

School Psychology		**M.S. Thesis Students**	
Homework	**100**	**Homework**	**100**
Class Participation/Assignments	**80**	**Class Participation/Assignments**	**80**
Statistical Test write-ups	**125**	**Statistical Test s write-ups**	**125**
"Evaluation" Grp Project	**75**	**Thesis Work**	**50**
		Thesis Presentation/additional write ups	**25**
'Final' (Take Home)	**70**	**'Final' (Take Home)**	**70**

*The assignments and points may change as the program evaluation becomes clarified

Final grades will be based on 600 points and will be distributed as follows:

410 and above	(91% of total points)	-	A
405 - 409	(90% of total points)	-	A-
396 - 404	88% or total points)	-	B+
374 - 395	(83% of total points)	-	B
360 - 374	(80% of total points)	-	B-
Below 360 -	(less than 80% of total points)		C/No credit
Below C-	(less than 70% of total points)		C -/No Credit

Tentative Class Schedule/Important Dates Spring 19

Date	**Tentative Topics**	**Tentative Computer Exercise**	**Sprinthall Readings for Class**	**Hmwk/ Assignment Due Date**	**Points**
Jan 7	**Overview of class** **Operationalizing** **Scales of measurement** **Intro to SPSS**	SPSS intro setting up a data file Frequencies			Class participation 10 pts
Jan 14	**Review of Research Methodology** **Research paradigms** **Review of descriptives** **Tables, Figures**	Descriptives Participants Charts and Figures Crosstabs	Ch 1-3 Ch 9 Ch 18 pp. 542-553 Paradigm Article	**Homework 1 Due**	10 pts

Date	**Tentative Topics**	**Tentative Computer Exercise**	**Sprinthall Readings for Class**	**Hmwk/ Assignment Due Date**	**Points**
	Charts **Bivariate Analysis**				
Jan 21	**MLK No Class**				
Jan 28	**Measurement concepts** **Tests Construction** **Norms and Test Standardization** **Normal Curve and z scores** **Histograms**	**Finalize** **DAVID Douglas ASSESSMENT**	Ch 4 -6 Ch 17 pp. 500-505 (through definition of reliability	**Homework 2 due**	10 pts
Feb 1	**Interpreting Scores**	Distributions	Chap 7 & 8	**Homework 3 due**	10 pts
Feb 4	**Statistics & Parameters** **Parameter Estimates and Hypothesis Testing** **Confidence intervals** **z- test** **One sample t-**	Confidence Intervals One sample t	Chapter 8	**Homework 4 due** ***Participant write-up due* (Thesis people only)**	10 points 10 pts
Feb 11	**Hypothesis Testing** **Hypothesis of Difference** **Independent t-tests**	Indep t	Sprinthall Ch 10 (review ch 9)	**Homework 5 due**	10 pts
Feb 18	**ANOVA** **Post Hoc Tests** **Effect Size**	ANOVA	Sprinthall Ch 12 pp. 330-350	**Homework 6 due** ***Independent t write up due***	10 pts 30 pts
Feb 25	**Factorial ANOVA**	Factorial ANOVA	Sprinthall Ch 12 pp. 350-360		
Mar 4	**Hypothesis of Association**		Sprinthall Ch 11 &14	**Homework 7 due**	10 points

Date	**Tentative Topics**	**Tentative Computer Exercise**	**Sprinthall Readings for Class**	**Hmwk/ Assignment Due Date**	**Points**
	Correlational Research – Scattergrams **Regression – Predicting relationships (if time)**			***ANOVA/ Factorial write-up***	35 points
Mar 11	**NonParametrics Chi Square** **Tests for Ordinal Data**	Non Parametrics Chi Square Ordinal Non-Parametrics	Sprinthall Ch 13 & 16	**Homework 8 due** ***Chi square write up due***	10 pts 25 pts
Mar 18	**Measurement Review of Reliability and Validity**	Reliability	Sprinthall Ch 17 Additional Readings	**Homework 9 due** ***Reliability write-up due*** **(Thesis people only)**	10 pts
Mar 25	***Spring Break***	***Spring Break***			
Apr 1	**Before-After Designs Paired T-tests Within Ss ANOVA** **Bring Group Data to class** **Choosing the Correct Test**	Paired t W/in Ss ANOVA	Ch 15	**Homework 10 due**	10 pts
Apr 08	**Catching Up** **Analysis/Prep for Group Projects** **Bring Pre-Post Data to class** **Thesis updates**			***Paired t-test write up/w/in SS write-up due***	35 pts 5 points
WED Apr 10	**Final DATA Collected**				
Apr 15	**Final Class Complete Analysis**				

Date	**Tentative Topics**	**Tentative Computer Exercise**	**Sprinthall Readings for Class**	**Hmwk/ Assignment Due Date**	**Points**
	Quantitative Presentations **Thesis Presentations** **Thesis Proposals/Methods sections due** **Reflections**				
WED Apr 17	**Group Projects Due** **School Psychs – David Douglas Presentations**	**Last Class Session**			75 pts
Apr 22	**Exam due** **Thesis methods sections due**				70 pts 50 points