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

Course Name/Number	Research Methods and Statistics II / CPSY 531 Section 1
Term	GS/17
Department	Counseling Psychology
Textbooks	Sprinthall, R.C. (2012). *Basic Statistical Analysis*. (9th ed.) Needham Heights, MA: Allyn & Bacon.
Location	Tuesday 05:30PM - 08:45PM, York Graduate Center, Room 118
Faculty Name	Eleanor Battison, MS, NCC
Faculty Phone/E-mail	503-449-3906 / ebattison@lclark.edu
Office Advising Hours	By appointment

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. 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 is allowed. The second absence requires a make-up of class assignments, an additional assignment (such as an additional write up or an article summary) and explanation.

Assignments Overall the requirements of the course include: in class assignments, homework assignments, in-class computer assignments, statistical result section write-ups, final exam and group project.

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

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

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 2017 Assignments			Total
Class Participation/in-class assignments	13 pts each	Discussion in class and SPSS in-class assignments	182
Weekly homework assignments	10 pts each	Sprinthall book	100
Write ups (x4)	25, 35 30, 30 pts	Based on SPSS in-class assignments Write up #1 will receive feedback and can re-submit	120
Group Project "Program Evaluation" /Thesis Project	120 pts	In-class presentation	120
Take home Exam	120 pts	Definitions and exam questions; 2 weeks to complete take home exam	78
		Total	**600**

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:

558 and above	(93% of total points)	-	A
540– 557	(90% of total points)	-	A-
528– 539	88% or total points)	-	B+
498 - 527	(83% of total points)	-	B
480 - 497	(80% of total points)	-	B-
Below 479 -	(less than 80% of total points)		C/No credit

Tentative Schedule of Classes/Assignments:

Date	**Tentative Topics**	**Tentative Computer Exercise**	**Sprinthall Readings for Class**	**Homework/ Assignment Due**	**Points**
Jan 10	**Overview of class**	SPSS introduction Setting up a data file Frequencies			Class participation 10 pts
Jan 17	**Review of descriptives** **Tables** **Figures** **Charts** **Bivariate Analysis** **Correlation - intro** **Scattergrams**	Descriptives Participants Charts and Figures Crosstabs	Chapter 1-3 Chapter 18 pp. 542-553 Beginning of Chapter 11	**Homework 1 due**	Homework 10 pts Class participation 10 pts

Date	Tentative Topics	Tentative Computer Exercise	Sprinthall Readings for Class	Homework/ Assignment Due	Points
Jan 24	**Review of Research Methodology** **Operationalizing Measurement concepts** **Tests** **Construction** **Measurement** **Review of Reliability and Validity**		Chapter 9 Chapter 17 **(includes ch 18)**	**Homework 2 due**	Homework 10 pts Class participation 10 pts
Jan 31	**Norms and Test Standardization** **Normal Curve and z scores** **Histograms**		Chapters 4 -6		Class participation 10 pts
Feb 7	**Intro to Inferentials** **Statistics & Parameters**	Distributions	Chapter 7	**Homework 3 due**	Homework 10 pts Class participation 10 pts
Feb 14	**Parameter Estimates and** **Hypothesis Testing** **Confidence intervals** **z- test** **One sample t-**	Confidence Intervals One sample t	Chapter 8		Class participation 10 pts
Feb 21	**Hypothesis of Difference** **Independent t-tests**	Independent t	Chapter 10 (review ch 9) Chapter 18 problems	**Homework 4 due**	Homework 10 pts Class participation 10 pts
Feb 28	**ANOVA** **Post Hoc Tests** **Effect Size**	ANOVA	Chapter 12 pp. 330-350 Chapter 12 pp. 350-360	**Homework 5 due** **Write up #1 due: Independent t**	Homework 10 pts Class participation 10 pts Write up 25 pts
Mar 7	**Factorial ANOVA**	Factorial ANOVA		**Homework 6**	Homework 10 pts Class participation 10 pts

Date	**Tentative Topics**	**Tentative Computer Exercise**	**Sprinthall Readings for Class**	**Homework/ Assignment Due**	**Points**
Mar 14	**Before-After Designs** **Paired T-tests** **Within SS ANOVA**	Paired t W/in SS ANOVA	Chapter 15 Chapter 18 problems	**Homework 7** ***Optional: Final version of Write up #1 due*** **Write-up #2 due: ANOVA**	Homework 10 pts Class participation 10 pts Write up 35 pts
Mar 21	**Nonparametrics** **Chi Square** **Tests for Ordinal Data**	Nonparametrics Chi Square		**Homework 8** **Write up #3 due: Paired t-test/in SS**	Homework 10 pts Class participation 10 pts Write up 30 pts
Mar 28	**Spring Break**	***Spring Break***			
Apr 4	**Hypothesis of Association** **Regression / Predicting Relationships**	Regression	Chapters 13 & 16	**Homework 9 due** **Write up #4 due: Chi squared**	Homework 10 pts Class participation 10 pts 30 pts
Apr 11	**Correlational Research** **Regression**		Chapters 11 & 14	**Homework 10**	Homework 10 pts Class participation 10 pts
Apr 18	**Group Project/ Thesis Proposals** **Final Presentations** **Last class**			**Group/Thesis Project Presentations**	Class participation 10 pts 120 pts
Apr 25	**Semester ends**			**Exam due**	78 pts