

**SRM 600 – 905: Introduction to Graduate Research
CRN 24337**

Course Syllabus

Instructor:

John Sylvester, PhD, CPA
Applied Statistics and Research Methods
Email: john.sylvester@unco.edu

Office Hours

Tuesdays 6 – 7pm and by appointment
Virtual via Zoom

Course Information:

Course Time & Location:
Distance/Online Instructional Method
UNC Canvas: <http://www.unco.edu/canvas/>

Course Objectives:

Following completion of this course, students should be able to write a research proposal to include introduction, literature review, rationale for the study, description of the design, sample selection, instrumentation/materials, data collection procedures, and data analysis procedures. To accomplish this, the following objectives will be addressed:

- Define basic terminology and concepts associated with research
- Identify researchable topics and issues within their specialty field
- Critically evaluate published research reports
- Describe the steps and decisions involved in planning, designing, and implementing a research study
- Compute and interpret basic statistics
- Be able to write research proposals and reports following APA guidelines.

OER Textbooks:

Davies, C. (2020). *A quick guide to quantitative research in the social sciences* (from OER Open Textbook Library).

Gay, L. R., Mills, G. E., & Airasian, P. W. (2012). *Educational Research: Competencies for Analysis and Applications*. 10th Edition. Boston, Pearson

(from: https://yuli-elearning.com/pluginfile.php/4831/mod_resource/content/1/Gay-E%20Book%20Educational%20Research-2012.pdf).

It is the policy and practice of the University of Northern Colorado to create inclusive learning environments. Please go to https://www.unco.edu/center-enhancement-teaching-learning/teaching-resources/syllabus_statements.aspx to learn more about such topics as Disability Resources, Title IX, Academic Integrity, Attendance, Equity and Inclusion, Food Insecurity and Basic Needs, Land Acknowledgement, Name/Pronoun in Use, the Writing Center, Covid-19, and other topics as they are added.

Modules	Topic Area	Assign Reading/Material	Activities/Assignment
1 Weeks 1 & 2	Overview of the course <ul style="list-style-type: none"> • Introduction to scientific method and basic research (Qualitative, Quantitative and Mixed Methods) • Concepts/Terminology • Preview of the research process • Identifying a researchable problem/question(s) • Justifying the need for a study • Research questions/hypotheses 	Chapter 1: Introduction to Educational Research Chapter 2: Selecting and Defining a Research Topic Read Exercise 1 article PowerPoints: Course Intro	Finding Group Members (possibly not more than 4). <ul style="list-style-type: none"> • Form a group • Decide Research Proposal topic and research question(s) • Module homework • Homework/activities posted on canvas due
Homework due before week 3		1. Make sure you are in a group 2. Post your group idea about research 3. Post research question in assignment 1 4. Read assigned chapters and "Instructions for Project Proposal - Introduction" under "Course Material" module 5. Module 1 assignment and quiz due January 19	
2 Weeks 3 & 4	Literature Review/Research Approaches <ul style="list-style-type: none"> • Different research approaches • Different types of literature reviews • Searching and reviewing the literature (e.g., different databases for peer reviewed literature) 	Chapter 3: Reviewing the Literature PowerPoint: Review of Literature PowerPoint: Research Questions and the Literature Review	<ul style="list-style-type: none"> • Work on proposal Introduction / Literature Review with your group member. • Literature review map & annotated bibliography • Module homework
Homework due before week 5		1. Post literature map of Lit Review in Assignments 2 2. Post annotated bibliography in Assignments 2 3. Quiz 2: Replaced by lit map and bibliography of your proposal due February 2	
3 Weeks 5 & 6	Quantitative Research and Different Types of Designs <ul style="list-style-type: none"> • Survey research • Correlational research • Causal-Comparative research • Experimental research • Ex post facto research 	Chapter 7: Survey Research Chapter 8: Correlational Research Chapter 9: Causal-Comparative Research Chapter 10: Experimental Research PowerPoint: Experimental Designs ED PowerPoint: Quasi-experimental Designs PowerPoint: Non-experimental Designs PowerPoint: Survey Research	<ul style="list-style-type: none"> • Group critique assigned Introduction/Literature Review • Methods section / Research proposal design choice • Module homework
Homework due before week 7		1. Exchange Intro/Lit Review Rough Draft and Critique Intro/Lit Review due February 9 2. Module 3 Quiz: Random Selection vs Random Assignment, and Literature Review due February 16 3. Complete Review of Intro/Lit Review with Feedback due February 16	
4 Weeks 7 & 8	Qualitative Research and Different Types of Designs <ul style="list-style-type: none"> • Narrative design • Ethnographic design • Case-study design • Phenomenological design • Grounded theory design etc. Analyzing and Reporting Qualitative Research	Chapter 14: Qualitative Data Collection Chapter 15: Narrative Research Chapter 16: Ethnographic Research Chapter 17: Case Study Research Chapter 18: Qualitative Research Data Analysis and Interpretation PowerPoint: Qualitative Research PowerPoint: Family Research	Qualitative Research data-collection tools: <ul style="list-style-type: none"> • Interviews • Focus groups • Observations • Records/archival review • Qualitative questionnaires- (open ended-questions) • Module homework

Homework due before week 9		<ol style="list-style-type: none"> 1. Exchange Rough Draft of Methods Section with other group and Critique Rough Draft and discuss it between group due February 23 2. Conduct Field Observation/Interview 3. Post Field Observation/Interview due February 23 4. Submit Revised Introduction and Review of Literature due March 1 5. Complete Review of Methods Section with Feedback due March 1 	
5 Week 9 & 10	<p>Methods and Analysis</p> <ul style="list-style-type: none"> • Participants, Instruments, Procedures and Data Analysis • Sampling and logic of sampling error • Descriptive statistics and normal distribution • Standard scores • Group comparisons 	<p>Chapter 5: Selecting a Sample</p> <p>Chapter 6: Selecting Measuring Instrument</p> <p>Chapter 12: Descriptive Statistics</p> <p>PowerPoints: Sampling</p> <p>PowerPoint: Descriptive Statistics and Normal Distribution</p>	<ul style="list-style-type: none"> • Group critique of methods section • Descriptive statistics activities with SPSS • Module homework
Homework due before week 11		<ol style="list-style-type: none"> 1. Submit Module 5 Descriptive Analysis Activity due March 8 2. Critique and Post Methods Section due March 15 	
6 Weeks 11 & 12	<p>Principles and Concepts of Inferential Statistics</p> <ul style="list-style-type: none"> • Types of inferential statistics • Quantitative data analysis – Comparison, Prediction, Relationship or Correlation/Bivariate analysis • Hypothesis testing, Level of significance and Statistical power analysis • Single sample z and t-tests 	<p>Chapter 13: Inferential Statistics</p> <p>PowerPoint: Hypothesis Testing.pptx</p> <p>PowerPoint: Hypothesis Testing, Level of significance, and Power</p> <p>PowerPoint: Single Sample z and t-tests</p> <p>PowerPoint: Correlation.pptx</p>	<ul style="list-style-type: none"> • Continue Analysis / Discussion sections of your group project. • Module homework or activities on quantitative analysis. For example, Comparison, Relationship or Correlation analyses.
Homework due before week 13		1. Submit Module 6 – Comparison and Relationship assignments due March 29	
7 Weeks 13 & 14	<p>Measurement, Validity, Reliability and Reporting</p> <ul style="list-style-type: none"> • Types of Measurement • Locating, evaluating, and reporting measures • Measurement Validity • Measurement Reliability 	<p>PowerPoint: Types of Measurement</p> <p>PowerPoint: Measurement Reliability</p> <p>PowerPoint: Measurement Valid</p>	<ul style="list-style-type: none"> • Begin Poster presentation of group research proposal project. • Module homework or activity to demonstrate validity and reliability assessment.
Homework due before week 15		1. Module 7 Assignment and Quiz due April 12	
8 Weeks 15 & 16	<p>Research Ethics and Group Project</p> <ul style="list-style-type: none"> • Ethics in Educational Research • Presentation of group project 	<p>Chapter 1: Page 19 – 25</p> <p>Guidelines for Writing Quantitative & Qualitative Research Proposals</p> <p>Decide on date for Group Project presentation</p> <p>Date of presentation within the last week of the semester.</p>	<ul style="list-style-type: none"> • Discussion board: Ethics • Presentation of group research project • Post final paper and poster • Complete group peer evaluations
		<ol style="list-style-type: none"> 1. Ethics Discussion April 19 2. Post Final Written Proposal in Assignments April 26 and Constructive response to at least 2 post by May 2 3. Group Peer Evaluations due by May 3 latest 	

NOTE

Grading scale:

All assignments and exercises are part of the class experience and therefore cannot be submitted late. **Extreme situations requiring late submission should be discussed with the instructor in advance. All late assignments within three days of late submission will be reduced to a B before grading begins and will receive minimal written feedback. All late submission after the two weeks anniversary of the due date will receive an F with no written feedback.**

Final Grades will be assigned as follows:

A	94% and above	A-	90-93%
B+	86-89%	B	83-85%
B-	80-82%	C+	76-79%
C	70-75%	C-	69%