

**SRM 600 – 904: Introduction to Graduate Research  
CRN 24586**

**Course Syllabus**

**Instructor:**

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**Office Hours**

Thursdays 5 – 6 p.m. (MST) 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:**

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

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

**University Statements:**

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](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"> <li>• Introduction to scientific method and basic research (Qualitative, Quantitative and Mixed Methods)</li> <li>• Concepts/Terminology</li> <li>• Preview of the research process</li> <li>• Identifying a researchable problem/question(s)</li> <li>• Justifying the need for a study</li> <li>• Research questions/hypotheses</li> </ul>	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"> <li>• Form a group</li> <li>• Decide Research Proposal topic and research question(s)</li> <li>• Module homework/activities posted on canvas</li> </ul>
Homework due before week 3		1. Make sure you are in a group 2. Post your group idea about research (Topic) 3. Post research question(s) in assignment 1 4. Read "Instructions for Project Proposal - Introduction" under "Course Material" module 5. Module 1 assignment and quiz due January 20	
2 Weeks 3 & 4	Literature Review/Research Approaches <ul style="list-style-type: none"> <li>• Different research approaches</li> <li>• Different types of literature reviews</li> <li>• Searching and reviewing the literature (e.g., different databases for peer reviewed literature)</li> </ul>	Chapter 3: Reviewing the Literature PowerPoint: Review of Literature PowerPoint: Research Questions and the Literature Review	<ul style="list-style-type: none"> <li>• Work on proposal Introduction / Literature Review with your group member.</li> <li>• Literature review map &amp; annotated bibliography</li> <li>• Module homework</li> </ul>
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 3	
3 Weeks 5 & 6	Quantitative Research and Different Types of Designs <ul style="list-style-type: none"> <li>• Experimental research</li> <li>• Quasi-Experimental Designs (Causal-Comparative research)</li> <li>• Non-Experimental Designs: Ex post facto research Correlational research Survey research</li> </ul>	Chapter 7: Survey Research Chapter 8: Correlational Research Chapter 9: Causal-Comparative Research Chapter 10: Experimental Research Davies (2020)-A quick Guide to Quantitative Research in the Social Sciences PowerPoint: Experimental Designs ED PowerPoint: Quasi-experimental Designs PowerPoint: Non-experimental Designs PowerPoint: Survey Research	<ul style="list-style-type: none"> <li>• Group critique assigned Introduction/Literature Review</li> <li>• Methods section / Research proposal design choice</li> <li>• Module homework</li> </ul>
Homework due before week 7		1. Exchange Intro/Lit Review Rough Draft and Critique Intro/Lit Review due February 10 2. Module 3 Quiz: Random Selection vs Random Assignment, and Literature Review due February 10 3. Complete Review of Intro/Lit Review with Feedback due February 17	
4 Weeks 7 & 8	Qualitative Research and Different Types of Designs <ul style="list-style-type: none"> <li>• Narrative design</li> <li>• Ethnographic design</li> <li>• Case-study design</li> <li>• Phenomenological design</li> <li>• Grounded theory design etc.</li> </ul>	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	Qualitative Research data-collection tools: <ul style="list-style-type: none"> <li>• Interviews</li> <li>• Focus groups</li> <li>• Observations</li> <li>• Records/archival review</li> <li>• Qualitative questionnaires- (open ended-questions)</li> <li>• Module homework</li> </ul>

	Analyzing and Reporting Qualitative Research	PowerPoint: Qualitative Research PowerPoint: Family Research	
Homework due before week 9		<ol style="list-style-type: none"> <li>1. Exchange Rough Draft of Methods Section with other group and Critique Rough Draft and discuss it between group due February 24</li> <li>2. Conduct Observation/Interview</li> <li>3. Post Observation/Interview due February 24</li> <li>4. Submit Revised Introduction and Review of Literature due February 24</li> <li>5. Complete Review of Methods Section with Feedback due March 3</li> </ol>	
5 Week 9 & 10	<p>Methods and Analysis</p> <ul style="list-style-type: none"> <li>• Participants, Instruments, Procedures and Data Analysis</li> <li>• Sampling and logic of sampling error</li> <li>• Descriptive statistics and normal distribution</li> <li>• Standard scores</li> <li>• Group comparisons</li> </ul>	<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"> <li>• Group critique of methods section</li> <li>• Descriptive statistics activities with SPSS</li> <li>• Module homework</li> </ul>
Homework due before week 11		<ol style="list-style-type: none"> <li>1. Submit Module 5 Descriptive Analysis Activity due March 10</li> <li>2. Post Critique and Methods Section due March 24</li> </ol>	
<p><b>Spring Break 2023 – Week of March 12</b></p> <p><b>Note that the Spring break is in between the two weeks of Module 5. No class work this week.</b></p>			
6 Weeks 11 & 12	<p>Principles and Concepts of Inferential Statistics</p> <ul style="list-style-type: none"> <li>• Types of inferential statistics</li> <li>• Quantitative data analysis – Comparison, Prediction, Relationship or Correlation/Bivariate analysis</li> <li>• Hypothesis testing, Level of significance and Statistical power analysis</li> <li>• Single sample z and t-tests</li> </ul>	<p>Chapter 13: Inferential Statistics</p> <p>PowerPoint: Types of Inferential Statistics</p> <p>PowerPoint: Hypothesis Testing</p> <p>PowerPoint: Hypothesis Testing, Level of significance, and Power</p> <p>PowerPoint: Single Sample z and t-tests</p> <p>PowerPoint: Correlation</p>	<ul style="list-style-type: none"> <li>• Continue Analysis / Discussion sections of your group project.</li> <li>• Module homework or activities on quantitative analysis. For example, Comparison, Relationship or Correlation analyses.</li> </ul>
Homework due before week 13		1. Submit Module 6 – Comparison and Relationship assignments due April 7	
7 Weeks 13 & 14	<p>Measurement, Validity, Reliability and Reporting</p> <ul style="list-style-type: none"> <li>• Types of Measurement</li> <li>• Locating, evaluating, and reporting measures</li> <li>• Measurement Validity</li> <li>• Measurement Reliability</li> </ul>	<p>Review Chapter 6 (especially Page 160 – 164)</p> <p>PowerPoint: Types of Measurement</p> <p>PowerPoint: Measurement Reliability</p> <p>PowerPoint: Measurement Valid</p>	<ul style="list-style-type: none"> <li>• Begin Poster presentation of group research proposal project.</li> <li>• Module homework or activity to demonstrate validity and reliability assessment.</li> </ul>
Homework due before week 15		1. Module 7 Assignment and Quiz due April 21	
8 Weeks 15 & 16	<p>Research Ethics and Group Project</p> <ul style="list-style-type: none"> <li>• Ethics in Educational Research</li> <li>• Presentation of group project</li> </ul>	<p>Chapter 1: Page 19 – 25</p> <p>Guidelines for Writing Quantitative &amp; 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"> <li>• Discussion board: Ethics</li> <li>• Presentation of group research project</li> <li>• Post final paper and poster</li> <li>• Complete group peer evaluations</li> </ul>
		<ol style="list-style-type: none"> <li>1. Ethics Discussion April 28</li> <li>2. Post Final Written Proposal in Assignments May 4</li> <li>3. Group Peer Evaluations due by May 5 latest</li> </ol>	