



# PSY/EDUC 6570 - Online Introduction to Educational and Psychological Research

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Spring Semester 2016  
Online Course

**Instructor:** Joshua D. Marquit, Ph.D.

**Office Hours:** By appointment only

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**Cell Phone Number:** (610) 570-4422 (You're also welcome to text me with questions or concerns.)

**Contact Policy:** I am accessible to my students by email, text, phone, through Canvas, or online video conferencing (e.g., Skype).

**Canvas:** Please check Canvas each day for course updates, announcements, assignments, quizzes, exams, and grades.

## Required Reading Materials

- Johnson, R.B. & Christensen, L. (2014). *Educational Research: Quantitative, Qualitative, and Mixed Approaches* (5<sup>th</sup> Ed.). California: Sage.
  - ISBN-13: 9781452244402

**Additional Readings:** Additional readings will be assigned throughout the semester and will be available via Canvas. Most of these additional readings will be chapter outlines and lecture notes, and will be provided in PDF format.

**Course Description and Content:** This course is designed to introduce graduate students to the information and skills needed to critique, conduct, and report research in education, psychology, and other social sciences. This course will emphasize communication and writing skills as you write a research prospectus. Your prospectus will include a problem statement, a critical and systematic review of relevant literature, and a methods and data analysis section. This research prospectus will be an appropriate first step in writing a research, grant, thesis, or dissertation proposal.

Substantial reading assignments will be given each week, and students will be expected to read them thoroughly. Students will also have a variety of practical hands-on experiences and activities designed to master the course material.

**Course Objectives:** The objectives for PSY/EDUC 6570 have been agreed upon by the department heads in the College of Education. By the end of the course, the student will be able to do the following:

1. Use the reference area of the library, interlibrary loan services, and computerized databases to locate relevant articles and documents on a selected topic.
2. Conduct a systematic review of the literature for the purposes of (a) identifying research questions related to a student-selected topic, (b) describing the strengths and weaknesses in

studies on the topic, and (c) delineating methodological issues to be resolved in designing a study in the area of the student's topic. These skills will include the ability to:

- a. Examine and critique previous reviews.
  - b. Write an introduction for the review.
  - c. Write objectives for the review.
  - d. Obtain reports of studies to be reviewed.
  - e. Develop a coding instrument for coding the studies.
  - f. Collect data from reports systematically.
  - g. Analyze collected data.
  - h. Interpret and report results.
  - i. Write a problem statement, from the results of the review, for a future study.
3. Use APA and USU Publication Guide for Graduate Students when writing a literature review.
  4. Describe the elements of a research proposal.
  5. Describe the relationships among hypotheses, measures, and analysis procedures in a research proposal.
  6. Define the major threats to the internal and external validity of an experiment.
  7. Critically read published empirical studies to:
    - a. Identify authors' research questions or objectives.
    - b. Specify authors' conclusions.
    - c. Identify the major threats to internal validity and discuss the validity of the authors' conclusions in light of those threats.
    - d. Suggest improvements in the design of critiqued studies to remedy the perceived threats to internal or external validity.
  8. Define target and accessible populations and explain the importance of both random sampling and random assignment in-group experimental designs.
  9. Define and assess independent as well as dependent variables.
  10. Understand the issues related to collecting research data using tests, questionnaires, interviews, observation, and content analyses.
  11. Understand test validity and reliability and the importance of those concepts when conducting research.
  12. Understand the differences among nominal, ordinal, interval, and ratio data and how these differences influence the selection of appropriate statistical procedures.
  13. Understand the differences between descriptive and inferential statistics.
  14. Understand the difference between statistical and practical significance including:
    - a. The meaning of statistical significance.
    - b. Measures of Effect Size.
  15. Describe the methods and tools of:
    - a. Causal-comparative and descriptive research designs.
    - b. Correlational research designs.
    - c. Factorial, experimental, quasi-experimental, and pre-experimental research designs.
    - d. Single-subject research designs.
    - e. Case study methods.
    - f. Qualitative research methods.
  16. Understand the ethical, legal, and human relations issues in educational/psychological research.

These objectives will be accomplished through course readings, student-professor conversations, writing assignments, quizzes and exams, and a research prospectus.

**Grading and Evaluation:** There are 400 points possible in this course. Your grade for this course will be calculated as detailed below.

Percentage	Grade
93 - 100	A
90 - 92.99	A-
87 - 89.99	B+
83 - 86.99	B
80 - 82.99	B-
77 - 79.99	C+
73 - 76.99	C
70 - 72.99	C-
67 - 69.99	D+
63 - 66.99	D
0 - 62.99	F

Evaluation Activity	Points
<b>Quizzes</b>	<b>100</b>
<b>Research Prospectus Writing Assignments</b>	
Assignment #1: Research Topic and Questions	10
Assignment #2: Problem Statement Syllogism	10
Assignment #3: Literature Review Plan	10
Assignment #4: Coding Sheet	10
Assignment #5: Coding Table	20
Assignment #6: Final Research Prospectus (includes final draft of your research questions, problem statement, literature review plan, literature review, and methods and data analysis section).	100
<b>Other Assignments</b>	
Library Search Exercise	10
Experimental Validity Assignment	10
Article Critique #1	10
Article Critique #2	10
<b>Examinations</b>	
Mid-term Exam: Chapters 1-6 and 11-14	50
Final Exam: Chapters 7-10, 15, 16, and 18-21	50
<b>Total Points</b>	<b>400</b>

**Quizzes:** There will be 10 quizzes throughout the semester. Each quiz will consist of both multiple-choice and short-answer questions. Questions will be created from class reading materials. Each quiz will be worth 10 points. Quizzes are posted on Canvas and open-book. There will be no make-up quizzes.

**Exams:** The two exams will consist of multiple choice, true/false, and open-ended question items. The Mid-term Exam will cover the assigned readings and course work from the first half of the semester (Chapters 1-6 and 11-14). The Final Exam will cover the assigned readings and course work from the second half of the semester (Chapters 7-10, 15, 16, and 18-21). Both exams are open-book, worth 50 points each, and are available on Canvas for you to complete.

In order to take a make-up exam, you will need to inform me well in advance (except in the case of a properly documented, university-approved, emergency), and make necessary arrangements to take the exam. If arrangements are not made prior to the exam due date, you will not be able to complete the exam.

**Research Prospectus Writing Assignments:** The major aim of this course is to provide students with an opportunity to develop their research and critical thinking skills. You will have an opportunity to generate a final research prospectus that will include a research question, problem statement, literature review plan, coding sheet, coding table, review the relevant literature, and methods and data analysis section to address your research questions.

The prospectus writing assignment will be broken into smaller, more manageable tasks. I will provide you with feedback and suggestions on each assignment. I will also provide examples of each prospectus writing assignment on Canvas from previous students. If you need help with your writing assignment, I am also available to meet with students individually by phone or internet-based communication.

- 1. Assignment #1: Research Topic and Question.** For this assignment, students are required to submit a one-page document that includes: 1) a preliminary title of their research prospectus, 2) two research questions, 3) a brief summary of why the research topic is relevant and researchable, and 4) the references for 2 topic-related, peer-reviewed journal articles.
  - a. Assignment Assistance:
    - i. Examples of this assignment from previous students can be found in the Files Section of Canvas in a folder labeled: Assignment #1: Research Topic and Questions – Examples
    - ii. Chapter 2: Research Ideas provides some helpful suggestions
  - b. Document Format: APA style, 1-inch margins, and 12pt Times New Roman font
  - c. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - d. Evaluation: 10 points
  - e. Revise and Resubmit: After I have graded this assignment, you will be given a week to revise and resubmit, if you would like to improve your grade.
  
- 2. Assignment #2: Problem Statement Syllogism.** For this assignment, you will submit a 1-page problem statement in syllogism format. Your assignment must meet APA formatting standards. Please include references. After the assignments are graded, each student will meet with the instructor to discuss how to improve their problem statement. You will have a week from our student-instructor meeting to resubmit your revised problem statement.
  - a. Assignment Assistance:
    - i. Examples of this assignment from previous students can be found in the Files Section of Canvas in a folder labeled: Assignment #2: Problem Statement Syllogism – Examples
    - ii. Problem Statement Syllogism Lecture found in the Module Section of Canvas provides some helpful suggestions.
  - b. Document Format: APA style, 1-inch margins, and 12pt Times New Roman font
  - c. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - d. Evaluation: 10 points
  - e. Revise and Resubmit: After I have graded this assignment and we have met, you will be given a week to revise and resubmit, if you would like to improve your grade.
  
- 3. Assignment #3: Literature Review Plan.** The literature review is closely tied to the logic contained in the problem statement. This assignment will help make this connection. Each student will write a 2-page introduction to their literature review, including sources, keywords, inclusion/exclusion criteria, and at least 3 literature review objectives. Each source must be a primary source and from a peer-reviewed academic journal. Include references for each article used in the literature review plan.

- a. Assignment Assistance:
    - i. Examples of this assignment from previous students can be found in the Files Section of Canvas in a folder labeled: Assignment #3: Literature Review Plan – Examples
    - ii. Susan Friedman Systematic Review of Literature found in the Module Section of Canvas provides some helpful suggestions.
  - b. Document Format: APA style, 1-inch margins, and 12pt Times New Roman font
  - c. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - d. Evaluation: 10 points
  - e. Revise and Resubmit: After I have graded this assignment, you will be given a week to revise and resubmit to try to earn full credit, if you would like to improve your grade.
- 4. Assignment #4: Coding Sheet.** Students will construct a coding sheet to collect, organize, analyze, and synthesize information on relevant characteristics and possible covariates from the articles you find. The relevant characteristics should include at least three major categories: 1) Sample Characteristics, 2) Research Design Characteristics, and 3) Research Outcomes.
- a. Assignment Assistance: Examples of this assignment from previous students can be found in the Files Section of Canvas in a folder labeled: Assignment #4: Coding Sheet – Examples
  - b. Document Format: APA style, 1-inch margins, and 12pt Times New Roman font
  - a. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - b. Evaluation: 10 points
  - c. Revise and Resubmit: After I have graded this assignment, you will be given a week to revise and resubmit to try to earn full credit, if you would like to improve your grade.
- 5. Assignment #5: Coding Table (in an Excel file).** Students will construct a coding table in an Excel that presents the results of their systematic literature review using their Coding Sheet. The coding table should include the three major categories (sample characteristics, research design characteristics, and research outcomes and conclusions) from their Coding Sheet with each subcategory receiving its own column on your table. Your Coding Table should include 10 peer-reviewed primary sources or research articles.
- a. Assignment Assistance: Examples of this assignment from previous students can be found in the Files Section of Canvas in a folder labeled: Assignment #5: Coding Table – Examples
  - b. Document Format: APA style, 1-inch margins, and 12pt Times New Roman font
  - c. Submission: Please submit via Canvas as an Microsoft Excel .xlsx file.
  - d. Evaluation: 20 points
- 6. Assignment #6: Final Research Prospectus.** For this assignment students will submit a final version of their prospectus, which includes their revised problem statement syllogism, research questions, literature review plan, literature review, coding table (in appendix section), and brief methods and data analysis section. Your prospectus should be a minimum of 10 pages in length. Your prospectus should also include a title page and reference.
- a. Assignment Assistance:
    - i. Examples of this assignment from previous students can be found in the Files Section of Canvas in a folder labeled: Assignment #6: Final Research Prospectus – Examples
    - ii. You are required to meet with me by phone to discuss how to write your final research prospectus. Those students that fail to meet with me will receive a 10-point deduction on their final paper.

- iii. This syllabus also includes a suggested Final Research Prospectus page layout.
  1. This page layout will be used as the evaluation criteria for this assignment.
  - b. Document Format: APA style, 1-inch margins, and 12pt Times New Roman font
  - c. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - d. Evaluation: 100 points

### **Other Assignments:**

1. **Library Search Assignment.** Computer-assisted literature searches have greatly facilitated the retrieval of literature for doing research reviews. Students will complete the library assignment sheet, which requires them to use some of the most important techniques they learn during the tour.
  - a. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - b. Evaluation: 10 points
2. **Experimental Validity Assignment.** Students will complete a worksheet in which they identify the most compelling threats to internal validity in a number of research situations.
  - a. Assignment Assistance: Ron Thorkildsen's Experimental Validity Lecture found in the Module Section of Canvas provides some helpful suggestions.
  - b. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx.
  - c. Evaluation: 10 points.
3. **Article Critique #1 & #2.** The ability to critique and critically evaluate the adequacy of completed research is an essential skill. During the semester, students will do a short written critique of two different research articles.
  - a. Submission: Please submit via Canvas as a Microsoft Word .doc or .docx
  - b. Evaluation: 20 points (10 points for each Critique)

**Late Assignments will receive an immediate half-point deduction and will only be accepted within a day (or 24 hours) after the assignment was due, except in the case of a properly documented, university-approved, emergency.** In the case of a properly documented, university-approved, emergency, students must contact me and make necessary arrangements to submit their assignment at a later date.

### **Other Course Activities:**

1. **Learning Modules:** Learning Modules have been created for each week of the semester and are accessible to students on Canvas. Please check the Learning Module at the beginning of each week, as it will help guide you through the course material and assignments. I will also post a .pdf file that includes the learning objectives and assignments for that specific week. Each Learning Module will also include lectures, textbook chapter review outlines, assignments, examples of each writing assignment, and other useful course information.

**Students with Disabilities:** Qualified students with physical, sensory, emotional, or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

**Academic Integrity and Honesty:** Plagiarizing, cheating, or violating other reasonable standards of behavior will not be tolerated. Cheating includes such behaviors as using or providing others with unauthorized information, materials, or study aids in any academic exercise or activity, substitution for another student or permitting another student to substitute for oneself in taking an examination or in preparing work. Further, any talking during in the Testing Center will be considered cheating too. Any student who engages in academically dishonest behavior will receive an zero for the course grade. All incidents of cheating will be reported for university-level disciplinary proceedings the results of which can include probation, suspension, expulsion, the assignment of HV (honors violation) to the students permanent transcript, etc.

**Changes to Assignments and Schedule:** The instructor reserves the right to make changes to this syllabus. Potential changes will be discussed with student(s), agreed upon collectively, and a revised syllabus or announcement that reflects these agreed upon changes will be posted on Canvas.

## Tentative Course Schedule:

Month	Date	Week	Reading Assignments	Assignment/Testing
Jan.	11-16	1	- Course Syllabus	- Introduce yourself on Canvas - Please read the Course Syllabus - Briefly meet with the Instructor by phone to discuss course objectives and assignments.
Jan.	17-23	2	- Chapters 1 & 2 - Lecture Notes 1 & 2 - Research Topic and Question Examples	- Quiz #1: Chapters 1 & 2 - Library Search Assignment
Jan.	24-30	3	- Chapters 4 & 5 - Lecture Notes 4 & 5 - Research Topic and Question Examples	- Quiz #2: Chapters 4 & 5
Jan. – Feb.	31-6	4	- Chapters 3 & 6 - Lecture Notes 3 & 6	- Quiz #3: Chapters 3 & 6 - Assignment #1: Research Topic and Questions
Feb.	7-13	5	- Chapters 11 & 12 - Lecture Notes 11 & 12	- Quiz #4: Chapters 11 & 12 - Experimental Validity Assignment - Begin collecting and reading articles for your Final Research Prospectus
Feb.	14-20	6	- Chapters 13 & 14 - Lecture Notes 13 & 14 - Problem Statement Syllogism Lecture - Problem Statement Syllogism Examples	- Quiz #5: Chapters 13 & 14 - Article Critique #1 - Continue collecting and reading articles for your Final Research Prospectus
Feb.	21-27	7	- Chapters 7 & 8 - Lecture Notes 7 & 8 - Systematic Review of the Literature Lecture - Literature Review Plan Examples	- Quiz #6: Chapters 7 & 8 - Assignment #2: Problem Statement Syllogism - Continue collecting and reading articles for your Final Research Prospectus
Feb. – Mar.	28-5	8	- Mid-term Exam Study Guide - Literature Review Plan Examples	- Mid-term Exam: Chapters 1-6 and 11-14 - Continue collecting and reading articles for your Final Research Prospectus
Mar.	6-12		- Spring Break	
Mar.	13-19	9	- Chapters 9 & 10 - Lecture Notes 9 & 10 - Research Prospectus Examples	- Quiz #7: Chapters 9 & 10 - Assignment #3: Literature Review Plan - Continue collecting and reading articles for your Final Research Prospectus
Mar.	20-26	10	- Chapters 15 & 16 - Lecture Notes 15 & 16 - Coding Sheet Examples - Research Prospectus Examples	- Quiz #8: Chapters 15 & 16 - Continue collecting and reading articles for your Final Research Prospectus
Mar. – Apr.	27-2	11	- Chapters 18 & 21 - Lecture Notes 18 & 21 - Research Prospectus Examples	- Quiz #9: Chapters 18 & 21 - Assignment #4: Coding Sheet - Continue collecting, reading, and coding articles for your Final Research Prospectus
Apr.	3-9	12	- Chapters 19 & 20 - Statistic Review - Lecture Notes 19 & 20 - Research Prospectus Examples	- Quiz #10: Chapters 19 & 20 - Article Critique #2 - Continue collecting, reading, and coding articles for your Final Research Prospectus
Apr.	10-16	13	- Research Prospectus Examples - Final Research Prospectus Layout	- Continue reading and coding articles for your Final Research Prospectus
Apr.	17-23	14	- Research Prospectus Examples	- Continue reading and coding articles for your Final Research Prospectus
Apr.	24-30	15	- Research Prospectus Examples	- Assignment #5: Coding Table
May	1-6	16	- Final Study Exam Study Guide	- Assignment #6: Final Research Prospectus - Final Exam: Chapters 7-10, 15, 16, and 18-21

**Research Prospectus Layout: minimum of 10 pages of content plus a title page and references.**

1. Title page
2. Introduction
  - A. Problem Statement (approximately 1–1.5 pages)
    - i. Research background – describe the state of the research literature in general terms.
    - ii. Identify the gaps in the current research literature.
    - iii. Identify the benefits of conducting additional research to address these gaps.
    - iv. Briefly describe your proposed research project that will address these gaps.
  - B. The research questions to be investigated by implementing your proposed research project.
3. Review of literature (approximately 6–8 pages)
  - A. Short summary of the introduction above including additional information on the gaps in the current research literature identified earlier in the problem statement.
  - B. Review objectives
    - i. To describe the current state of the research literature on...
    - ii. To discuss issues, strengths, and weaknesses in previous research.
    - iii. To draw conclusions based on this information from which the research questions and strategies for this proposed research study were formulated.
  - C. Review procedures
    - i. Online databases searched.
    - ii. Keywords and keyword combinations used.
    - iii. Inclusion/exclusion criteria – how many articles met these criteria and were included in the systematic review?
  - D. Review discussion
    - i. Describe how your systematic review was conducted. Be sure to include information on your coding sheet and the variables that were coded and reported in your coding table.
    - ii. Split systematic review into three sections:
      1. Sample Characteristics
      2. Research Design Characteristics
      3. Research Outcomes
    - iii. For each of these three sections, you will analyze and summarize each coded variable from your Coding Table assignment.
      1. What is the data on each variable?
      2. Why is that variable and findings important?
      3. What should future research consider (i.e., how to address gaps and build on strengths in current research literature)? Recommendations?
    - iv. Conclusion paragraph
      1. Synthesize the systematic review of primary articles by discussing generally what the strengths and weaknesses (gaps) are in the current research literature.
      2. Identify what type of study should be conducted next (or what your proposed study will be) to address the weaknesses (gaps) in the current research literature.
  4. Methods (approximately 2–4 pages)
    - A. Research Design
      - i. Briefly describe the research design and the purpose of the study.
    - B. Participants/Subjects
      - i. Describe the:
        1. Basic characteristics of the participants/subjects

- a. # of participants/subjects, age range, and other research-specific characteristics.
    2. Study location
    3. Sampling technique
  - C. Experimental Variables
    - i. Independent variable(s) (if applicable)
    - ii. Dependent variable(s)
  - D. Materials
    - i. Informed consent forms
      1. Briefly describe what information will be included in the informed consent form.
    - ii. Recruitment materials including emails, flyers, incentives, and announcements.
      1. Briefly describe what information will be included in the recruitment materials.
    - iii. Measures including surveys, questionnaires, interviews, and other instruments.
      1. Briefly describe any data collection material here.
    - iv. Software including data collection platforms, data analysis programs, and other research-related programs.
      1. Briefly describe the software that you will be using to collect, store, manage, and analyze your data.
    - v. Hardware including computers and other types of research apparatus.
      1. Briefly describe the hardware that you will be using to collect your data.
  - E. Procedures
    - i. Describe how you will gain access to your participants, recruitment and sampling techniques, how you will collect data, and conduct the experiment (e.g., treatments and/or manipulations).
  - F. Data Analysis
    - i. List each of your research questions or hypotheses here.
    - ii. Describe which data will be used to answer each research question.
    - iii. Describe what type of research analyses will be used to answer each research question.
      1. Include any descriptive and inferential statistics; and graphical representations of the data that will be used.
5. References