



The REACH Program of
Trinity International University

PSY 340R – Experimental Psychology

Student's Manual 1.1

“See to it that no one takes you captive through hollow and deceptive philosophy, which depends on human tradition and the basic principles of this world rather than on Christ.”
Colossians 2:8

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I. Course Description

This course is a study of psychology as a natural science. Experience is provided in planning experiments by forming hypotheses, selecting and controlling variables, and preparing materials for the experimental task. The student will carry out a research project and reports the results in written or oral form. Psychology Core. Prerequisites: Introduction to Psychology and PSY 285E Statistics. Three hours

II. Course Overview

This course begins by providing a basic foundation of scientific concepts pertaining to psychological research and progresses to a presentation of the spectrum of research methods employed in basic and applied psychological studies. The basis of scientific investigation, including the philosophy of science, will be reviewed with special emphasis on integration issues.

Research concepts, rather than a mere review of research strategies, are emphasized. The course will outline techniques of scientific exploration, including psychological measurement, descriptive observations, correlation research, and the basics of experimental research. Ethical issues in research will be considered.

The course focuses on several important topics that will help students gain proficiency as a “consumer” of psychological research, so they will be able to read, accurately comprehend, and interpret published studies. Students will also have an opportunity to become involved in preparing and reporting on their own research project where they will learn to apply the process and methodology of psychological research.

In the Bible, Hosea (4:6) says, “My people are destroyed from lack of knowledge.” It is important that we learn how to gain accurate knowledge in order to become a strong pillar in the academic world.

III. Course Materials

1. Graziano, A.M. & Raulin, M.L. (2010). Research methods: A process of inquiry (7th ed.). Boston: Pearson/Addison Wesley. (ISBN 978-0-205-63402-6)
2. Student companion website: www.pearsonhighered.com/graziano7e

IV. Course Policies

1. APA Documentation

All written work (e.g. worksheets/essay questions, reflection papers, final projects, etc.) in the REACH Program must conform to the APA parenthetical notation style (please consult A Pocket Style Manual listed above). This includes:

- an APA title page (including a running header and page number)
- an “Abstract” page with a 1-2 paragraph summary of your paper (an abstract is only necessary for your Applied Learning Papers, but not for your smaller assignments)
- In-text citations (with author(s), date, and page number (if applicable))
Note Well: Even discussion board postings and PowerPoint presentations, for example, must use in-text citations when you cite another person’s work or ideas.
- a “References” page (it is not called a “bibliography”)
- one inch margins
- 12 point font
- double spaced

Failure to use and cite others’ work or ideas properly will lead to charges of academic dishonesty. See below for more information.

2. Academic Integrity

As a member of the Trinity community, we ask you to hold yourself and others to the highest standards of academic integrity and honesty. Violations take many forms, which include, but are not limited to, the following:

- Plagiarism: Using another’s work or ideas without proper documentation, which requires citing the author or authors’ name(s), date of publication, and page number (if applicable).
- Cheating: Using notes, books, or crib sheets during closed-book quizzes or exams, or copying from another student’s work.
- Submitting Previous Work: Submitting your work that was previously turned in for credit.
- Ghosting: Writing a paper or taking a quiz (or any other evaluation) in place of another student.
- Aiding and Abetting: Helping others to commit acts of academic dishonesty, or failing to report those who have or plan to commit dishonest acts.

Faculty members will investigate all violations of academic integrity, whether deliberate or non-deliberate. If a violation is confirmed, the student may receive an “F” for the assignment and the course. In such a case, the student may not drop the course. The faculty member will document the case of dishonesty, explaining the incident and the action taken. The Associate Dean of Nontraditional Education will receive a copy of this report, and a copy will be placed in the student’s file. In serious cases of academic

dishonesty, the Associate Dean may choose to meet with the student and faculty member to review the case. Multiple violations may lead to a student's dismissal from the program.

3. Late Work

Late work will not be accepted unless the student requests an extension prior to the deadline and the instructor grants the request. There may also be a substantial penalty for late work. An extension on the time needed to submit final course requirements will only be granted in unusual circumstances and if the instructor and the Dean grant the request.

4. Attendance Policy

Because of the accelerated and collaborative nature of the REACH courses, students are required to attend every class session. Missing a single class means a significant portion of contact with the instructor and the learning community has been lost.

For face-to-face courses, students missing one class session will be penalized between one-half and one full letter grade. Students missing two class sessions will receive an "F" for the course. Any student missing more than 30 minutes of a course session will be considered absent for the full course session.

For online courses, students must participate actively in class discussions and activities. Failure to do so will result in a grade reduction of one-half to a full letter grade at the discretion of the instructor.

5. Basic Writing and Speaking Proficiency

The REACH Program expects you to maintain basic standards of writing and speaking proficiency. If you believe you need support in one or both areas, please contact your academic advisor and/or use the resources in the following section.

V. Course Outcomes

“At the end of this course, the students will be able to...”

1. Apply scientific concepts to psychological problems.
2. Employ problem-solving skills to specific psychological phenomena or situations.
3. Evaluate psychological research methods and research designs, statistics and psychometric principles.
4. Think scientifically, distinguishing observations from conclusions, and distinguishing theories and findings based upon evidence from those without such support.
5. Assess situations for violations of ethical practices.
6. Analyze and evaluate published psychological research studies.
7. Conceptualize a research problem to which they apply the process and methodology of psychological research.
8. Identify the key developments in the emergence of scientific research in the discipline of psychology.

VI. Course Requirements

The PSY340R grade will be based on the following maximum points possible:

Assigned readings (20 points each week for 5 weeks)	100 points
Weekly Assignments (40 points each week for 5 weeks)	200 points
Weekly Research Progress Report (40 points each week)	200 points
Oral Presentation of Research Project	100 points
Class Participation	100 points
Applied Learning Paper	<u>300 points</u>
TOTAL POINTS =	1000 points

VII. Grading Scale

Your final course grade will be based on the total number of points that you earn throughout the course:

Percentage	Grade
92-100	A
90-91	A-
88-89	B+
82-87	B
80-81	B-
78-79	C+
72-77	C
70-71	C-
68-69	D+
62-67	D
60-61	D-
0-59	F

VIII. Course Schedule

Session One Overview

Outcomes for Session One

At the end of this session, the student will be able to:

1. Differentiate between independent and dependent variables.
2. Appraise one's own philosophical assumptions about the scientific process.
3. Critique the ethical principles outlined in the text.

Assignments Due for Session One

1. Read Graziano & Raulin chapters 1-3, Appendix A, B, and C.
2. Complete Graziano & Raulin Worksheet #1.

Session Two Overview

Outcomes for Session Two

At the end of this session, the student will be able to:

1. Identify the main components of measurement.
2. Demonstrate a working knowledge of statistical analysis of data.
3. Compare and contrast the naturalistic and case study approaches.

Assignments Due for Session Two

1. Read Graziano & Raulin chapters 4-6.
2. Complete Graziano & Raulin Worksheet #2.

Session Three Overview

Outcomes for Session Three

At the end of this session, the student will be able to:

1. Compare and contrast the correlational and differential research methods.
2. Analyze possible threats to validity.
3. Explain controls used to reduce threats to validity.

Assignments Due for Session Three

1. Read Graziano & Raulin chapters 7-9.
2. Complete Graziano & Raulin Worksheet #3.

Session Four Overview

Outcomes for Session Four

At the end of this session, the student will be able to:

1. Compare and contrast experimental and nonexperimental approaches.
2. Critique correlated group and single subject designs.
3. Demonstrate a working knowledge of factorial design.

Assignments Due for Session Four

1. Read Graziano & Raulin chapters 10-12.
2. Complete Graziano & Raulin Worksheet #4.

Session Five Overview

Outcomes for Session Five

At the end of this session, the student will be able to:

1. Critique different components of field research.
2. Infer biblical truths from the concepts studied thus far.
3. Synthesize the main concepts studied in the course.

Assignments Due for Session Five

1. Read Graziano & Raulin chapters 13, Appendix D, and E.
2. Complete Graziano & Raulin Worksheet #5.
3. Prepare to deliver an oral presentation of your research project. Your instructor will tell you how long your oral presentation needs to be. (This will vary depending on the size of the class.) Be prepared to answer questions and to receive comments after your oral presentation.

Assignments Due a Week After the Last Class

1. Complete the Applied Learning Paper.

IX. Course Documents

Note Well: For each session, the answers for worksheets should not exceed seven pages.

Session One Documents

Graziano & Raulin Worksheet #1

1. Written Assignment
 - a. Answer Chapter Exercises 1.2 and 1.4 on page 25.
 - b. Answer Chapter Exercises 2.2 and 2.5 on page 50.
 - c. Answer Chapter Exercises 3.4 and 3.6 on page 67.
2. Research Progress Report
 - a. Select an empirical article (one that reports original research findings based on a Methods and Results section of the article) in the Journal of Psychology and Theology. Make one photocopy to turn in during Session One and make one photocopy to keep.
 - b. Carefully read through the article and identify the research idea, research question, and variables selected.
 - c. IDEA-GENERATING PHASE: Write one or two sentences summarizing the research idea of the article. Then, develop your own research idea. Your research should advance psychological knowledge in the topic of the published article.
 - d. PROBLEM-DEFINITION STAGE: Write one or two sentences that summarize the research question addressed by the published article you selected. Then, develop a research question of your own. (Refer to textbook on how to develop your own research question).
 - e. DEFINE VARIABLES: Define the Independent Variable(s) and the Dependent Variable(s) in the article. Define the Independent Variable(s) and the Dependent Variable(s) that you will include in your own study (Some of these might be the same as those in the article, but make sure that at least one variable is new for your own study). Define any possible Extraneous Variables and Constants.

Session Two Documents

Graziano & Raulin Worksheet #2

1. Written Assignment
 - a. Answer Chapter Exercises 4.3 and 4.5 on page 85.
 - b. Answer Chapter Exercises 5.2 and 5.5 on page 109.
 - c. Answer Quick-Check Review 6.5 (1 and 2) on page 128.
2. Research Progress Report
 - a. **OPERATIONAL DEFINITION AND MEASUREMENT:** Describe how the researchers measured the Independent Variable(s) and Dependent Variable(s). Describe how you will measure the Independent Variable(s) and how you will measure the Dependent Variable(s).
 - b. Answer the following: Is the measure of the Independent Variable(s) nominal, ordinal, interval, or ratio data? Is the measure of the Independent Variable(s) nominal, ordinal, interval, or ratio data? Will you use descriptive statistics and/or inferential statistics in the study?

Session Three Documents

Graziano & Raulin Worksheet #3

1. Written Assignments
 - a. Write answers to the three questions in Quick-Check Review 7.3 on page 136.
 - b. Write answers to the six questions in Quick-Check Review 8.1 on page 161.
 - c. Write answers to the two questions in Quick-Check Review 9.4 on page 193.

3. Research Progress Report
 - a. RESEARCH HYPOTHESIS: What is the research hypothesis of the published empirical article you selected? What is the research hypothesis for your study?
 - b. NULL HYPOTHESIS: What is the null hypothesis in the published empirical article you selected? What is the null hypothesis for your own study?
 - c. CONTROL THROUGH EXPERIMENTAL DESIGN: What is the control used in the published study? What will be the control you will exercise in your own proposed study?

Session Four Documents

Graziano & Raulin Worksheet #4

1. Written Assignments
 - a. Write answers to the six questions in Quick-Check Review 10.1 on page 203.
 - b. Write answers to the four questions in Quick-Check Review 11.2 on page 234.
 - c. Write answers to the six questions in Quick-Check Review 12.1 on page 260.
2. Research Progress Report
 - a. NON-EXPERIMENTAL APPROACH OR EXPERIMENTAL DESIGN:
What is the non-experimental approach or experimental design of the published empirical article you selected? What is the non-experimental approach or experimental design for your own study?
 - b. STATISTICAL ANALYSIS: What is the statistical analysis used in the published empirical article you selected? What do you propose for the statistical analysis for your own study?

Session Five Documents

GRAZIANO & RAULIN Worksheet #5

1. Written Assignments

- a. Write answers to the five questions in Quick-Check Review 13.1 on page 274.
- b. Write answers to the five questions in Quick-Check Review 13.3 on page 288.

2. Research Progress Report

- a. **USE DECISION-TREE FLOWCHARTS:** Use one or more of the decision-tree flow charts on in the text to check the research study proposal thus far. What did you learn from the flow chart analysis?
- b. **PRE-DATA CHECK:** Use the Pre-Data Checklist in the text to refine the research proposal. What adjustments or additions did you have to make to the research proposal after going through the checklist?
- c. **RESULTS:** Briefly summarize the research participants, sampling procedure, sampling size, and results in the published article you selected. What research participants, sampling procedure, sampling size, and results would you expect if you were to conduct your own proposed study?
- d. **DISCUSSION:** Briefly summarize the discussion section of the article you selected. What issues would you expect to discuss if you were to conduct and publish your own study?
- e. **PREPARE AN ORAL PRESENTATION:** Gather together all the sections of the Research Progress Reports that pertain to your own proposed research study. Then, prepare a summary of that material for an oral presentation to be given in Session Five.

. Oral Presentation

- A. Each student will present an oral presentation of their proposed Research Project. Each presentation will include a summary of the following:
1. An abstract
 2. A brief review of the literature in your own words (summarize the background research in the published article you selected from the Journal of Psychology and Theology, in addition to the findings of the study presented in that article)
 3. The research question
 4. The independent and dependent variables
 5. Operational definitions and measurements of the variables
 6. The research hypothesis and the null hypothesis
 7. The experimental design or non-experimental research approach
 8. The proposed statistical analysis
 9. The sampling procedure, participants, and sample size
 10. Research ethical considerations
 11. The anticipated results
 12. The issues you anticipate that would be covered in the discussion section if the study was conducted with data collection and statistical analysis.
- B. The instructor will give constructive advice on how the student could improve their report before writing the Applied Learning Paper.

Applied Learning Paper

Research Project—Progress Reports, Oral Report, and Final Written Report as the Applied Learning Paper:

Develop a research proposal which includes all components of a research project except the final data collection and statistical analysis of the data. The sequential phases of research are parallel to the topics covered in the weekly reading assignments. Because the textbook reading and Research Progress Reports are coordinated in this way, it is especially important to keep up with each week's coordinated assignments. Assemble together the five Research Progress Reports and add finishing touches to constitute the Applied Learning Paper. Final Written Report (the Applied Learning Paper) of the proposed research project should include all of the following components:

1. Abstract
2. A brief review of the literature in your own words (summarizing the background research in the published article from the Journal of Psychology and Theology, plus the findings of the study presented in that article)
3. The research question
4. The independent and dependent variables
5. Operational definitions and measurements of the variables
6. The research hypothesis and the null hypothesis
7. The experimental design or non-experimental research approach
8. The proposed statistical analysis
9. The sampling procedure, participants, and sample size
10. Ethical considerations
11. The anticipated results
12. The issues the student anticipates that will be covered in the discussion section if the study will be conducted with data collection and statistical analysis.

X. Evaluation Forms

Instructor Evaluation for Oral Presentations

Student's Name	Course Number	Assignment
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Specific Requirements	Percentage Distribution Determined by Instructor	Percentage Earned by Student	Instructor Comments
Non-verbal Communication <ul style="list-style-type: none"> ▪ Attire (professional) ▪ Eye Contact (consistent) and Facial Expressions ▪ Posture (straight) ▪ Gestures and Movement (appropriate) 	10	<input type="text"/>	▪
Verbal Communication <ul style="list-style-type: none"> ▪ Volume and Pitch ▪ Pacing and Pauses ▪ Clarity and Concision ▪ Enthusiasm and Passion 	10	<input type="text"/>	▪
Organization <ul style="list-style-type: none"> ▪ Introductionⁱ and Conclusionⁱⁱ ▪ Section Titlesⁱⁱⁱ ▪ Section Introductions and Conclusions^{iv} ▪ Organizing Words, Phrases, and Sentences 	15	<input type="text"/>	▪
Discipline-Specific Knowledge/Content <ul style="list-style-type: none"> ▪ Explanation (restate, define, describe, illustrate) ▪ Analysis (reasons, causes, effects, purposes)^v ▪ Critique (agree, disagree, strengths, weaknesses) ▪ Synthesis of Existing Ideas and/or Theories 	15	<input type="text"/>	▪
Discipline-Specific Application <ul style="list-style-type: none"> ▪ Contextualization (individual, group, organization, sub-culture, culture, etc.) ▪ Recommendations (stop, start, continue, modify) ▪ Creation of New Ideas and/or Theories 	15	<input type="text"/>	▪
Christian Worldview (and Other Worldviews) <ul style="list-style-type: none"> ▪ Use of Scripture (interpretation and application) ▪ View of Scripture ▪ View of God, gods, or Ultimate Reality ▪ View of Humanity ▪ View of Birth, Life, Redemption, & Death ▪ View of Creation/Origin, History, the Present, & the End Times ▪ View of Knowledge ▪ View of Ethics 	15	<input type="text"/>	▪
Misc. <ul style="list-style-type: none"> ▪ Research (credibility, number, supporting & opposing viewpoints) ▪ Visual Aids^{vi} (if used) ▪ Response to Audience Comments/Questions ▪ Time Limit 	20	<input type="text"/>	▪

Total Possible	Total Percentage Earned by Student	Total Possible Points for Assignment	Total Points Earned	Final Grade for Assignment
100%		x	=	

Explanatory Notes

¹ An effective introduction: (1) grabs attention through a quote(s), statement(s), statistic(s), question(s), and/or story, (2) states the thesis or claim (which needs to be clear, concise, arguable, & controversial(?)), and (3) previews/outlines the paper.

² An effective conclusion: (1) summarizes the paper and ties its main points together and (2) ends with final thought(s), question(s), quotation(s), warning(s), challenge(s), and/or action points.

³ Section titles are often as follows: Title of the Paper (not the word "Introduction"), Background or Organizational Context or..., (Main Sections of the Paper), and Conclusion.

⁴ Section introductions and conclusions are usually not necessary in shorter papers (e.g., 1-2 pages).

⁵ Other categories for analysis include: assumptions, problems, solutions, and predictions.

⁶ Visual aids should only be used if they make a distinct contribution to the presentation; otherwise, they should be avoided. Examples include: PowerPoint, handouts, whiteboards or flipcharts, audio or video, etc.

Instructor Evaluation for Written Work

Student's Name	Course Number	Assignment
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Specific Requirements	Percentage Distribution Determined by Instructor	Percentage Earned by Student	Instructor Comments
Organization <ul style="list-style-type: none"> ▪ Introduction^{vii} and Conclusion^{viii} ▪ Section Titles^{ix} ▪ Section Introductions and Conclusions^x ▪ Organizing Words, Phrases, and Sentences 	5	<input type="text"/>	▪
Research / Sources (pp. 91-102^{xi}) <ul style="list-style-type: none"> ▪ Credibility (academic vs. non-academic) ▪ Number of Supporting Viewpoints ▪ Number of Opposing Viewpoints ▪ Primary Research 	10	<input type="text"/>	▪
Discipline-Specific Knowledge/Content <ul style="list-style-type: none"> ▪ Explanation (restate, define, describe, illustrate) ▪ Analysis (reasons, causes, effects, purposes)^{xii} ▪ Critique (agree, disagree, strengths, weaknesses) ▪ Synthesis of Existing Ideas and/or Theories 	25	<input type="text"/>	▪
Discipline-Specific Application <ul style="list-style-type: none"> ▪ Contextualization (individual, group, organization, sub-culture, culture, etc.) ▪ Recommendations (stop, start, continue, modify) ▪ Creation of New Ideas and/or Theories 	25	<input type="text"/>	▪
Christian Worldview (and Other Worldviews) <ul style="list-style-type: none"> ▪ Use of Scripture (interpretation and application) ▪ View of Scripture ▪ View of God, gods, or Ultimate Reality ▪ View of Humanity ▪ View of Birth, Life, Redemption, & Death ▪ View of Creation/Origin, History, the Present, & the End Times ▪ View of Knowledge ▪ View of Ethics 	25	<input type="text"/>	▪
Documentation (pp. 155-195) <ul style="list-style-type: none"> ▪ APA Paper Format ▪ APA Title Page (with Header) & Abstract ▪ APA Integration of Sources^{xiii} ▪ APA "References" Page 	5	<input type="text"/>	▪
Composition (pp. 1-90) <ul style="list-style-type: none"> ▪ Clarity and Concision ▪ Grammar, Punctuation, and Mechanics ▪ Voice (Academic vs. Non-academic) ▪ Tone (Assertive vs. Passive or Aggressive) 	5	<input type="text"/>	▪

Total Possible	Total Percentage Earned by Student	Total Possible Points for Assignment	Total Points Earned	Final Grade for Assignment
100%		x		

Explanatory Notes

¹ An introduction: (1) grabs attention through a quote(s), statement(s), statistic(s), question(s), and/or story, (2) states the thesis or claim (which needs to be clear, concise, arguable, & controversial (?)), and (3) previews/outlines the paper.

² A conclusion: (1) summarizes the paper and ties its main points together and (2) ends with final thought(s), question(s), quotation(s), warning(s), challenge(s), and/or action points.

³ Section titles are often as follows: Title of the Paper (not the word “Introduction”), Background or Organizational Context or..., (Main Sections of the Paper), and Conclusion.

⁴ Section introductions and conclusions are usually not necessary in shorter papers (e.g., 1-2 pages).

⁵ All page references refer to Hacker, D. (2008). A pocket style manual (5th ed.). Boston: Bedford/St. Martin’s.

⁶ Other categories for analysis include: assumptions, problems, solutions, and predictions.

⁷ There are three strategies for integrating sources into a paper: quotation, paraphrase, and summary.
