



# Family, Consumer, and Human Development

2905 Old Main Hill, Logan UT 84322-2905  
<http://www.usu.edu/fchd>

FCHD 3130: **RESEARCH METHODS (Spring, 2017)**

FL 206; 7:30 - 8:45 am

Randall Jones, Ph.D. (797.1553)  
Office Hours: M W 7:00 - 9:00 am (FL221)

Kevin Dyslin, TA  
Office Hours: TBA

**Required Text:** Leary, M. R. (2012). *Introduction to Behavioral Research Methods*. (6<sup>th</sup> ed.). Pearson Allyn and Bacon.

**Attendance:** Regular attendance is essential

**Sessions** consist of lecture and discussion. ASSIGNED READING SHOULD BE COMPLETED PRIOR TO EACH CLASS SESSION.

**Course Objective:** This course will provide students with an understanding of the research process, beginning with problem selection, and proceeding with formulation of hypotheses, conceptual and operational definitions, measurement, sample selection, research design, data collection and analysis, and interpretation. Completion of this course will enable students to conceptualize a research problem and recommend appropriate methodologies for investigation.

**Physical Impairments:** If a student has any physical disabilities or other problems that will likely require accommodation by the instructor, these must be made known to the instructor during the first week of the course. Any requests for special considerations relating to attendance, pedagogy, taking of examinations, etc. must be discussed with and approved by the instructor prior to completion of the last class during the first week of the course. In cooperation with the Disability Resource Center, course materials can be provided in alternative formats -- large print, audio, and braille.

As stated in The Student Code, "Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to re-enforce the higher level of conduct expected and required of all Utah State University students." When you were admitted to the university, you agreed to abide by this Honor Code by signing the Honor Pledge, which reads: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." Complete academic honesty is expected in this course. Cheating on exams or plagiarism on written assignments will result in a failing grade and may result in further action as per University policy.: As stated in The Student Code, "Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to re-enforce the higher level of conduct expected and required of all Utah State University students." When you were admitted to the university, you agreed to abide by this Honor Code by signing the Honor Pledge, which reads: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." Complete academic honesty is expected in this course. Cheating on exams or plagiarism on written assignments will result in a failing grade and may result in further action as per University policy.

**Grading:** Grades for the course are a composite of performance on Tag-team assignments, Queries, the Group Project & Presentation, and the optional Final Exam\*\*\*. OPPORTUNITIES FOR "EXTRA CREDIT" DO NOT EXIST! Possible points are as follows:

Tag-Team Assignments (up to 8 @ 10 pts each)	80
Group Project (1 @ 100 pts)	100
Group Presentation (1 @ 15 pts)	15
Queries (3 @ 25 pts)	75
Final Exam	***
Total	270

The highest point total at the end of the semester will be construed as 100% and serve as an anchor for grading. Using the highest point total, course grades will be based upon a curve as follows:

94 - 100.00% = A; 90 - 93.99% = A-; 88 - 89.99% = B+; 84 - 87.99% = B; 80 - 83.99% = B-; 78 - 79.99% = C+; 74 - 77.99% = C; 70 - 73.99% = C-; 68 - 69.99% = D+; 64 - 67.99% = D; 60 - 63.99% = D-; 0 - 59.99% = F.

\*\*\* The final exam is optional! If you are satisfied with your grade as of 12/11/15, you won't need to take the final. If you choose to take the optional final exam, and your final exam score is greater than your lowest query score, YOUR FINAL EXAM SCORE WILL REPLACE YOUR LOWEST QUERY SCORE. If your final exam score is lower than your lowest query score, you will retain the grade that you earned prior to taking the optional final exam. In other words, your grade for this class will not suffer due to poor performance on the optional final exam. If for some reason you miss a query (e.g., query = 0), or performed poorly on one or more queries, plan to take the optional final exam, scheduled for Tuesday, December 15<sup>th</sup> at 7:30.

## DEFINITIONS

**OPTIONAL FINAL EXAM:** An exam consisting of 50 true-false and multiple-choice questions. Bring a blue SCANTRON!

**QUERIES:** A test consisting of 50 true-false and multiple choice questions. Queries are announced in advance (see p. 5 of the syllabus). Bring a blue SCANTRON!

**TAG-TEAM ASSIGNMENTS:** Assignments that you complete with a classmate "in class". These tasks require critical thinking to identify potential methodological problems, to extract hypotheses from "story problems," and to identify components of a manuscript, etc. Tag-team assignments are not announced in advance. You will not be given opportunities to make-up missed tag-team assignments. There will be a minimum of five and no more than eight tag-team assignment opportunities throughout the semester; each is worth a maximum of 10 points. **NOTE:** Your lowest tag-team score will be replaced with a 7 at the end of the semester. If you miss (a score of 0) or perform poorly on a tag-team (e.g., a score less than 7), your grade will not suffer. If you miss or perform poorly on more than one tag-team, your grade may be affected.

**REQUIRED READING (RR):** Reading assignments have been scheduled (see p. 5). If you fail to complete the assigned reading you will have difficulty participating in class discussions, and completing tag-team assignments.

**GROUP PROJECT:** The group project is designed so you, along with 3 or 4 of your classmates, can demonstrate everything you have learned in this course. The group project is a brief, original, research proposal (written according to APA guidelines) that includes the following sections:

### **GUIDELINES FOR THE GROUP PROJECT**

Points

- 15 INTRODUCTION AND RESEARCH QUESTION(s) (Group Project section 1)
1. Briefly explain what your proposed research project is about (1 paragraph)
  2. Briefly explain how your group became interested in this topic
  3. Review relevant literature (a minimum of 5-6 published articles) (2 pages)
  4. State your research question(s), identify independent and dependent variables (1 to 3 research questions)
  5. Based upon theory and/or the literature you have reviewed, speculate about your results (i.e., what do you expect to find?)
  6. Include a Reference page (APA)
- Also, refer to Writing a Research Report (syllabus, pp. 6-9) items 1 - 16
- 20 DESCRIPTION OF MEASURES (Group Project section 2)
- General purpose -- to convince readers that the measures you have selected (developed) are adequate (the best available) for meeting your needs. You will need AT LEAST TWO MEASURES (1 for the dependent variable and 1 for the independent variable). **THE USE OF MULTIPLE MEASURES FOR EACH VARIABLE IS DESIRABLE.**

## **Group Project** (Description of Measures, continued)

For each measure, write:

1. Introductory paragraph(s) describing your efforts to locate measures (mention some that you found that did not seem appropriate for your purposes).
2. 2-3 paragraphs describing each measure that you would use (If your independent variable is a demographic variable (e.g., age, gender), simply state how you will measure it.
3. 2-3 paragraphs describing past uses of each measure
4. 2-3 sentences indicating why these measures are appropriate for addressing your research question(s)
5. 1-2 paragraphs presenting evidence of reliability for each measure
6. 1-2 paragraphs presenting evidence of validity for each measure
7. Include a Reference page (APA)

Also, refer to Writing a Research Report (syllabus, pp. 6-9) items 37 -58

- 15 SAMPLE/SUBJECT SELECTION (Group Project section 3) – this section will be fictitious, i.e., describe how you would obtain participants for your study -- what you would do if you were actually recruiting a sample to participate in your study?

1. DEFINE THE POPULATION (e.g., school[s], club[s], district, city, state) from which the sample is drawn;
2. SPECIFY SAMPLE SIZE (# of subjects);
3. IDENTIFY A SAMPLING FRAME (lists, registration, phone book -- must be relevant to population) that you would use to select the sample;
4. Describe the SAMPLING PROCEDURE

-PROBABILITY	-NON-PROBABILITY
*simple random	*judgment
*systematic random	*quota
*multi-stage (cluster)	*convenience
*stratified proportionate	*snowball
5. DETAIL ASPECTS OF YOUR SAMPLING PROCEDURE -- specify steps involved in the sampling procedure that would implement.
6. Include a Reference page (APA)

Also, refer to Writing a Research Report (syllabus, pp. 6-9) items 17 - 25

- 5 PROCEDURES FOR DATA COLLECTION (Group Project section 4)

1. Describe how measures were administered to participants (e.g., mail, in person. etc.)
2. Include instructions to participants (WHAT WERE PARTICIPANTS TOLD?)
3. Describe ORDER OF ASSESSMENT?
4. Detail any SPECIAL CIRCUMSTANCES (refusals, questions from participants) that may affect results.
5. Include a Reference page (APA)

Also, refer to Writing a Research Report (syllabus, pp. 6-9) items 70 - 75

- 25 RESEARCH DESIGN (Group Project section 5)

1. Restate your research question
2. Diagram (using R, X, O notation) a research design that summarizes your group research project. Make sure that the design corresponds to the procedures that you have outlined in section 4. Explain what happens with each of your Rs, Xs, and Os.
3. List ALL TWELVE Threats to Internal Validity. For each threat, explain why (or why not) your research design controls for alternative/rival hypotheses
4. Include a Reference page (APA)

Also, refer to Writing a Research Report (syllabus, pp. 6-9) items 59 - 69

- 20 DATA ANALYSIS & RESULTS (Group Project section 6) – this section will be fictitious.  
 You will create and summarize findings that reflect what you believe would be the outcome of your proposed study if you actually implemented the steps and procedures that you have described in sections 2 through 5.
1. Discuss statistical procedures to establish the psychometric properties of selected instruments  
 Reliability (inter-item consistency, test-retest stability, inter-observer agreement, etc.)  
 Validity (e.g., face, construct via convergent-divergent relations, content, criterion, etc.)  
 The goal of these preliminary analyses is to demonstrate that the measures you are using “behave” in a similar manner as they have in the past (e.g., your Cronbach alpha coefficients should be similar to those reported in the literature).
  2. Restate each research question(s). For each research question, specify the statistical procedures that you used in order to answer the research questions. Specify scoring procedures, measures (IVs & Dvs if appropriate), and statistical procedures.
  3. SUMMARIZE FINDINGS FROM THE ANALYSES USED TO ADDRESS EACH RESEARCH QUESTION. For each, provide an ANSWER to the research question (i.e., summarize your fictitious data using appropriate statistical tests). Be sure to address statistical significance, and practical significance (effect sizes:  $r$ ,  $\eta^2$ , and/or  $R^2$  squared, mean square differences, etc.). Use Tables and Figures (bar charts, line graphs, scatter-plots, pie charts, etc., as appropriate).
  4. Include a Reference page (APA)  
 Also, refer to Writing a Research Report (syllabus, pp. 6-9) items 76 - 87
- 100 TOTAL POSSIBLE

**ALL SECTIONS WILL INCLUDE A TITLE PAGE, LISTING RESEARCH GROUP MEMBERS IN ALPHABETICAL ORDER**

**ALL SECTIONS WILL INCLUDE APPROPRIATE DOCUMENTATION** (i.e., citations and references).  
**ALL SECTIONS WILL CONFORM TO GUIDELINES SPECIFIED IN THE APA PUBLICATION MANUAL**

In order to obtain maximum points for each section, use headings that correspond with the guidelines presented above! These sections are due throughout the semester, immediately following discussion of relevant material! PLEASE NOTE: These assignments will be accepted for credit on or before the due date. **Sections of the Group Project that are submitted late (after the due date) will be evaluated for the purpose of providing groups with feedback HOWEVER, NO POINTS WILL BE AWARDED TO ASSIGNMENTS THAT ARE SUBMITTED LATE.**

**GROUP PRESENTATION:** Groups will present their PROJECTS to the class. The GROUP PRESENTATION will briefly summarize (10 to 15 minutes) all components of the GROUP PROJECT.

**GUIDELINES FOR THE GROUP PRESENTATION**

1. Briefly explain what the purpose of your research project is about;
2. Describe your measures and justify (i.e., reliability & validity) your selection process. Describe strengths and weaknesses of you measures;
3. Describe your sample and the process of subject selection. Describe strengths and weaknesses of the selection process;
4. Briefly describe your procedures for data collection;
5. Describe threats to internal validity that are relevant to your research design and project;
6. Summarize your results (what did you find);
7. If you had to do this project again, with unlimited time and resources, describe three methodological issues that you believe would improve your study. Tell us what changes you would make. FCHD-3130:

RESEARCH METHODS (Course Schedule)

Spring, 2017

RR

01/10		Introductions, Course Overview, Course Requirements
01/12	(pp. 1 - 24)	Research and Science / Types of Research
01/17	(p. 15)	Theories = Pictures on the puzzle box / Topics for Research
01/19		Library and Information Services at Utah State University
01/24	(pp. 333-377)	The Research Report / Sharing Research Results / Disseminating the Research Report
01/26		<b>MEET IN GROUPS</b>
01/31	(pp. 31- 47)	Variability / Variance / Systematic & Error
02/02	(pp. 49- 95)	Measurement / Characteristics of Measurement / Finding Measurement Instruments
02/07	(pp. 49- 95)	Measurement (continued): Quality of Measurement / Reliability and Validity / REVIEW
		<b>GROUP PROJECT SECTION 1: Due Today - Introduction and Research Question(s)</b>
02/09		<b>QUERY 1, then MEET IN GROUPS</b>
02/14	(pp. 49- 95)	Survey Research / Observation, Questionnaires, Interviews
02/16	(pp. 117-137, 126-130)	Descriptive Research, Central Tendency (Mean, Median, Mode) / Distributions
02/16	(pp. 99-114)	Sampling / Subject Selection / Probability sampling techniques
		<b>GROUP PROJECT SECTION 2: Due Today - Description of Measures</b>
02/21		Attend Friday Classes
02/23	(pp. 99-114)	Subject Selection / Nonprobability sampling techniques / External Validity
02/28	(pp. 140-159)	Correlational Research / Causation / Correlation coefficients (phi, r, eta)/ REVIEW
03/02		<b>QUERY 2, then MEET IN GROUPS</b>
03/07		SPRING BREAK
03/09		SPRING BREAK
03/14	(pp. 182-202)	Experimental Research Designs / Threats to internal validity
		<b>GROUP PROJECT SECTION 3: Due Today - Sample/Subject Selection</b>
		<b>GROUP PROJECT SECTION 4: Due Today - Procedures for Data Collection</b>
03/16	(pp. 182-202)	Experimental Research Designs / Threats to internal validity (CONTINUED)
03/21	(pp. 285-295)	Quasi-Experimental Research Designs
03/23	(pp. 269-288)	Longitudinal, cross-sectional, developmental Research Designs
03/28	(pp. 291-306)	Single Subject Research Designs (Withdrawal & Reversal designs)
03/30	(pp. 291-306)	Single Subject Research Designs (continued) / REVIEW
04/04		<b>QUERY 3, then MEET IN GROUPS</b>
04/06		Presenting Results / Interpreting Results / Tables & Figures
		<b>GROUP PROJECT SECTION 5: Due Today - Research Design</b>
04/11	(pp. 232-247)	Data Analysis / Group Differences (t-tests)
		<b>GROUP PROJECT SECTION 6: Due Today - Data Analysis &amp; Results</b>
04/13	(pp. 232-247)	Complex statistical analyses (ANOVA) Group Presentations
04/18		Group Presentations
04/20		Group Presentations
05/04		<b>7:30 am OPTIONAL FINAL EXAM</b> (see p. 1)

## Evaluating a Research Report (manuscript, scholarly article)

### I. Introduction

A properly conceptualized introduction allows the reader: (1) to understand what the study is about (information about the problem, the variables under study, and the research strategy); and (2) to understand why the study was undertaken (explanation and justification in terms of social and/or scientific significance and some information as to how the study relates to previous work). Thus, the introduction:

1. Identifies the research area to which the study is relevant.
2. Describes the theoretical, practical, and social significance of the research when applicable.
3. Cites the major methodological strengths and weaknesses of related studies.
4. Cites the major inferential weaknesses of related studies, such as misconstructions of data, faulty conclusions, alternative implications.
5. Treats controversial issues fairly by offering available data on all sides of the issue.
6. Clearly states the research questions or hypotheses.
7. Defines variables with enough detail to understand how they will help answer the research questions.
8. Justifies selection of these variables.
9. Provides a general rationale for the procedure in terms of how it answers questions and/or relates to issues.

Beyond this, the introduction might also:

10. Integrate the research into a theoretical framework.
11. Avoid inconclusive discussions.
12. State expectations for results.
13. Acknowledge exceptions to general findings.
14. Identify limitations of the study.
15. Identify particular strengths of the study.
16. Describe criteria that will be used to determine the practical and/or social significance of the study.

### II. Method

The Methods section allows the reader to understand exactly how the study was conducted. This description requires adequate treatment of the subject population, personnel, apparatus, materials, procedures, and design. The description should be given in sufficient detail so that a reader might not only replicate the methods but also might judge their appropriateness and the probable reliability of the results. To accomplish these things, the Methods section does the following in each category:

Subjects:

17. States the number of subjects.
18. States their age or distribution of ages.
19. States their sex or the proportion of each sex.
20. Describes other demographic factors that might be relevant to the uniqueness of the subjects as a group.
21. Explains why subjects were selected (refers to subject availability, motivation to participate, etc.).
22. Describes the method of subject selection if sampled from a larger population.
23. Cites subject mortality (attrition) rates, if any.
24. Explains subject mortality (attrition).
25. If ethically sensitive, specifies conformance with APA ethical guidelines on safeguards for human subjects.

Experimenter/Personnel:

26. Specifies sex, age, and other relevant demographic information.
27. Describes their experience with the research area.
28. Describes the extent of their knowledge about the study.

Experimenter/Personnel: (continued)

29. Specifies their experience with the subject(s).
30. Specifies the instructions given to them.
31. Describes the conditions under which they learned the procedures

Setting:

32. Gives a rationale for the choice of the specific setting, especially if treatment and observation settings differ.
33. Specifies the location where the research was conducted.
34. Describes physical aspects of the environment that might affect results.
35. Specifies how the environment was altered for the study.
36. Describes any unusual environmental events.

Apparatus/Materials:

37. Describes specific apparatus or materials used.
38. Details their construction or provides references.
39. Provides illustrations of specially constructed equipment if necessary for understanding the study.
40. Explain why apparatus and/or materials were used.
41. Demonstrates the reliability and validity of the apparatus, materials, or test instruments.

Concepts Measured:

42. Defines in operational terms.
43. Defines in complete detail.
44. References definitions used in related research.
45. Discusses relationship to definitions of similar variables in related research.
46. Defines in relation to the research question.
47. Ranks in terms of importance to the research questions.

Observation Procedures:

48. Presents rationale for selection of observation procedures.
49. Provides description of procedural sequence followed in observing.
50. Details the coding format.
51. Details the frequency of observation sessions.
52. Details the duration of observation sessions.
53. Details the schedule of observation sessions.
54. Describes the training of observers.
55. Specifies the number of reliability checks.
56. Explains in detail the method of computing reliability.
57. Specifies the conditions under which observations were made.
58. Assesses reliability for all dependent variables, or explains why reliability was not assessed.

Research Design:

59. Identifies and describes design.
60. Identifies major potentially confounding variables
61. Specifies the number of subjects assigned to groups.
62. Specifies the distribution of subject characteristics, such as age and sex, among groups.
63. Specifies the method of assigning subjects to groups.
64. Specifies the method of assigning experimenters to groups.
65. Describes each phase (condition) of the study.

66. Identifies the sequence of conditions.
67. Identifies the duration of each condition.
68. Specifies the criteria used for moving from one condition to another.
69. Describes how any extraneous variables were controlled.

Procedures:

70. Describes treatments or independent variables in detailed operational terms.
71. Describes any experimenter reactions to subjects' responses.
72. Describes interactions among subjects.
73. Lists specific procedures in chronological order.
74. Specifies length of sessions.
75. Describes instructions to the subjects.

### III. Results

The Results section allows the reader to inspect the collected data, evaluate the analysis of the data, and judge whether the conclusions reached by the authors are justified. In order to accomplish this the Results section:

76. Reports data on all variables specified in the Methods section.
77. Reports data on each condition of the design that is specified in the Methods section.
78. Reports on the reliability of the data.
79. Presents data that are quantified and replicable.
80. Reports data with sufficient detail to justify later conclusions.
81. Identifies analyses used.
82. Explains or references analyses not commonly used in similar research.
83. Describes how unusual measures were computed.
84. Restricts reporting to a description of the data collected.
85. Uses labels that are consistent with those specific in the Methods section.
86. Reports any appropriate descriptive statistics.
87. Uses and reports any appropriate inferential statistical analyses.

### IV. Discussion

A Discussion section allows the reader to evaluate the implications drawn by the experimenters from their interpretation of the data and data analyses. This section also should allow for some judgment as to how the results integrate with the research literature cited in the introduction. To accomplish this, the Discussion section:

88. States the results in terms of answering the research question OR in terms of accepting or rejecting the hypotheses tested.
89. Compares or contrasts results with previous research cited in the introduction.
90. Cites alternative explanations where relevant.
91. Describes limitations on internal validity.
92. Describes limitations on external validity.
93. Makes clear distinctions between social and statistical significance.
94. Discusses the significance of the data for future research.
95. Proposes questions for future research.

Beyond this, the Discussion section might also:

96. Include a cost-benefit analysis.



## V. Abstract

By reading the Abstract, along with the graphs and tables, one should be able to understand the purpose, methodology, and results of the study. In order to accomplish this the Abstract:

97. Clearly states the purpose or major research question.
98. Identifies the independent variables.
99. Identifies the dependent variables.
100. Contains no information or conclusions that do not appear in the body of the manuscript.
101. Identifies the subject population.
102. Specifies the research design.
103. States test instruments, apparatus, and/or data-gathering procedure.
104. Names intervention/treatment used.
105. Includes statistical significance levels when applicable.
106. States the results in terms of differences between various treatment and control conditions.
107. Reports inferences made or comparisons drawn from the results.
108. States the purpose or experimental question in one sentence.
109. Is written in a style similar to that of the main paper.
110. Is organized in parallel with the body of the paper (problem, method, results, conclusions).
111. Provide interest in reading the paper.

## VI. Title

The Title should be a concise statement of the main theme of the study. It is explanatory when alone and emphasizes any special characteristics of the study. The Title:

112. States the topic of the manuscript.
113. Stimulates interest in the topic.
114. Refers to the variables of major interest
115. Contains enough information to be useful to indexers as a statement of content.

## VII. General Criteria

The primary general criteria by which a research manuscript should be judged are THE DEGREE TO WHICH:

116. Data are replicable, which assumes that variables have been operationally defined and that the data are reliable.
117. The study is socially significant, which assumes judgment using consumer standards for clients, the research community, program developers, etc.
118. The procedures are replicable, which assumes that all procedures have been thoroughly described, that all contingencies have been identified, and that the described procedures were actually implemented.
119. The results are generalizable, which assumes that subjects, personnel, setting and materials have been adequately described.
120. Data are clearly reduced and analyzed without distortion.
121. The study is theoretically and scientifically significant, which assumes that the study is integrated with previous research both in the introduction and discussion, and that it represents a contribution to the field.
122. The manuscript is well-written, which assumes that it is interesting to read, concise and non-repetitive, grammatically correct, and free of excessive jargon.
123. The manuscript is consistent with APA guidelines in terms of style and ethics.
124. The manuscript is likely to interest readers.