

**PSYCHOLOGY 302 – RESEARCH, DESIGN & ANALYSIS****Fall 2009****section 001:** 341 MARB – Mon/Wed/Fri 10:00am – 10:50pm**section 002:** 341 MARB – Mon/Wed/Fri 11:00am - 11:50am

**Instructor:** Witold Simon, MD, PhD  
 office hours: Wed 12:15 pm – 1:00 pm or by appointment  
 office: 223 TLRB  
 office phone: 4227639, cell: 801 830 6916  
 e-mail: witold.simon@wp.pl

**Teaching Assistant:** John Penrod  
 office hours: Thursday, 4:00-5:30 pm  
 office: 1151 SWKT  
 cell: 801 636 0698  
 e-mail: jcpenrod79@gmail.com

**Course Readings:**

1. Shaughnessy J.J., Zechmeister E.B. & Zechmeister J.S. (2009) *Research methods in psychology*. (8<sup>th</sup> ed.) New York, NY: McGraw-Hill Higher Education
2. Coolican H. (2006) *Introduction to research methods in psychology* (3rd ed). London, UK: Hodder Education (selected chapters will be posted on Blackboard)

**Additional Readings:**

1. Kinnear P.R. & Gray C.D. (2009) *SPSS made simple*. New York, NY: Psychology Press.
2. Williams JM. (2007). *Style: Lessons in clarity and grace* (9<sup>th</sup> ed.) New York, NY: Pearson Education
3. *Publication manual of the American Psychological Association* (6<sup>th</sup> ed.). (2009). Washington D.C.: American Psychological Association.

**Class schedule****August**

1. 08/31 Monday  
 course requirements  
 Research teams assigned  
 Introduction – Shaughnessy pp. 2-26 (chapter 1)

**September**

2. 09/02 Wednesday  
 The Scientific Model – Shaughnessy pp. 27-57 (chapter 2)  
 Measuring people – Coolican pp. 18-33 (chapter 2)
3. 09/04 Friday  
**research project in class discussion:** 1) team vs. individual work; 2) choosing the topic;  
 3) consent form and other IRB forms and requirements (e.g. Tutorial course); 4) team evaluation.  
 Please have three research ideas per team ready to discuss  
**Note:** Download the IRB packet from [orca.byu.edu](http://orca.byu.edu)

4. 09/09 Wednesday  
Experimental methods – Coolican pp. 34-52 (chapter 3)  
Questionnaire, Scales, Interviews and Surveys – Coolican pp. 70-90 (chapter 6)
5. 09/11 Friday  
**research project in class discussion:** 1) indicate uniqueness of the study; 2) formulate a testable hypothesis report; 3) specify the construct; 4) indicate a study design to test your hypothesis; 5) indicate dependent and independent variables; 6) make a preliminary choice of the measures
6. 09/14 Monday  
Observation – Shaughnessy pp. 94-134 (chapter 4)
7. 09/16 Wednesday  
**research project in class discussion:** Introduction and Method (including measure) sections drafts – in PowerPoint
8. 09/18 Friday  
**research project in class discussion:** Introduction and Method (including measure) sections drafts – in PowerPoint
9. 09/21 Monday  
Survey Research – Shaughnessy pp. 135-179 (chapter 5)
10. 09/23 Wednesday  
**research project in class discussion:** PowerPoint proposal for IRB presentation in class  
Submit the paper version to Dr. Simon for evaluation
11. 09/25 Friday  
**research project in class discussion:** PowerPoint proposal for IRB presentation in class
12. 09/28 Monday  
Test I wrap-up  
Submit the paper version to Dr. Simon for evaluation  
**Note:** It is the last day of submitting your project Dr. Simon. Before you embark your research, you need to get approval from Dr. Simon and subsequently from IRB.

## TEST I

in the Testing Center

from 09/29 (Tuesday) 8 am – till 10/05 (Monday) 9 pm (last test handed out), they close at 10 pm  
it will cover classes 1-12

**Note:** The Testing Center is closed Tuesdays from 11 am to 12 pm for forums and devotionals.

13. 09/30 Wednesday  
Unobtrusive Measures of Behavior – Shaughnessy pp. 180-202 (chapter 6)  
**Note:** Dr. Simon will return to you your reviewed research proposal.

## October

14. 10/02 Friday  
**research project in class discussion:** 1) on-line and/vs. paper and pencil; 2) Medline and other databases; 3) List of references.

To create the measure: <http://byu.qualtrics.com>. To advertise your study: <http://byu.sona-systems.com>

**Note: The last day of submitting the research proposal to IRB**

15. 10/05 Monday  
 Independent Groups Designs – Shaughnessy pp. 204-243 (chapter 7)
16. 10/07 Wednesday  
 Coding Data for SPSS – in class exercises
17. 10/09 Friday  
 Repeated Measures Designs – Shaughnessy pp. 244-268 (chapter 8)
18. 10/12 Monday  
 Complex Designs – Shaughnessy pp. 269-304 (chapter 9)
19. 10/14 Wednesday  
**research project in class discussion:** literature review report – part I
20. 10/16 Friday  
**research project in class discussion:** literature review report – part II.
21. 10/19 Monday  
**research project in class discussion:** collecting and coding data report
22. 10/21 Wednesday  
 Analyzing Data with SPSS – in class exercises
23. 10/23 Friday  
 Describing Data, Confidence Intervals, Correlations – Shaughnessy pp. 374-412 (chapter 12)  
 Descriptive statistics – Coolican pp. 102-133 (chapter 8)  
 Bring examples from your projects to class
24. 10/26 Monday  
**research project in class discussion:** Result section of your paper.  
 Paper structure, Poster structure, PowerPoint structure – and the percentage of grade
25. 10/28 Wednesday  
 Test II wrap-up

## TEST II

in the Testing Center

from 10/29 (Thursday) 8 am – till 11/04 (Wednesday) 9 pm (last test handed out), they close at 10 pm  
 it will cover classes 13-25

**Note:** The Testing Center is closed Tuesdays from 11 am to 12 pm for forums and devotionals

26. 10/30 Friday  
Test of Statistical Significance and the Analysis Story – Shaughnessy pp. 413-456 (chapter 13)

## November

27. 11/02 Monday  
**research project in class discussion:** Discussion section of your paper and conclusions, limitations, indications for future studies – part I.
28. 11/04 Wednesday  
Communication in Psychology – Shaughnessy pp. 457-499 (chapter 14)  
APA writing style guidelines – in class exercises  
on-line trainings: <http://flash1r.apa.org/apastyle/basics/index.htm>  
<http://flash1r.apa.org/apastyle/whatsnew/index.htm>
29. 11/06 Friday  
**research project in class discussion:** Discussion section of your paper and conclusions, limitations, indications for future studies – part II.
30. 11/09 Monday  
Single-Case Designs and Small-n Research – Shaughnessy pp. 306-335 (chapter 10)
31. 11/11 Wednesday  
Quasi-Experimental Designs – Shaughnessy pp. 336-372 (chapter 11)
32. 11/13 Friday  
**research project in class discussion:** paper in class – first review
33. 11/16 Monday  
**research project in class discussion:** paper in class – first review
34. 11/18 Wednesday  
**Poster in class session**
35. 11/20 Friday  
**research project in class oral and PowerPoint presentation – part I.**  
**Note:** The last day of submitting the paper version of your paper. The deadline is at 12:00 pm  
Please submit 2 printed copies of your paper.
36. 11/23 Monday  
**research project in class: oral and PowerPoint presentation – part II.**
37. 11/30 Monday  
**research project in class: oral and PowerPoint presentation – part III.**

## December

38. 12/02 Wednesday  
**research project in class: oral and PowerPoint presentation – part IV.**  
**Note:** The last day of submitting the self and team evaluation. The deadline is at 2:50 pm.

39. 12/04 Friday  
Ethical Issues – Shaughnessy pp. 58-92 (chapter 3)
40. 12/07 Monday  
Test III wrap-up
41. 12/09 Wednesday  
The research project paper version feedback in class

### **TEST III – final exam**

in the Testing Center

from 12/14 (Monday) 8 am – till 12/18 (Friday) 9 pm (last test handed out), they close at 10 pm  
it will cover classes 26-41

**Note: The Testing Center is closed Tuesdays from 11 am to 12 pm for forums and devotionals.**

## **Grading**

### **Class Participation – 8%**

You are expected to come to class. Only medical excuses with a signed note from a doctor will be accepted. Some of the classes will rely upon role play and experiential learning. Thus it is important that you will be present in each class period. **Note:** Attendance will be randomly checked up to eight times during the semester. Each absence will cost you 1%.

### **Test I 10%, Test II 10%, Test III 10% (total 30%)**

Test questions will be developed from class discussion and readings and may encompass both objective and essay questions. Please note, that if there is any evidence of cheating (e.g. identical answers/misses) students will be given a failing grade for the midterm exam. Please note that, if you miss a test date without a note from a physician the midterms score is 0%.

Your score on all three tests will be rounded to the nearest whole point.

### **Research project - 52%**

You are expected to be a part of a group research project. You and your group members will review the literature on a topic of interest to you, formulate a testable hypothesis, design a study to test your hypothesis, collect and analyze the data, write a report summarizing your research, and present results of your work. The results are expected to be presented in the three different forms (PowerPoint, poster, paper), and each of them will be counted into the final grade in the following way: **Poster 11%, PowerPoint 10%, Paper 31% (total 52%)**. Details about the research project will be discussed in class.

#### **Please note:**

- 1) Every team member will get the same grade for the team project.
- 2) Each time you are not present at your team Paper feedback session, Poster or PowerPoint presentation, 3% will be subtracted from your grade. In such a way, you may lose 9% in total.
- 3) Each day of delay with submitting the paper will cost you 2% of your grade. In such a way, you may lose 10% in total. If your paper is submitted 6 or more days after the deadline, it will not be graded and you will receive 0% for the Paper. Deadline is mentioned in the syllabus.
- 4) Poster and PowerPoint not presented during appropriate classes will not be graded and you will receive 0% for Poster or PowerPoint. The dates of presentation are mentioned in the syllabus.
- 5) Deadlines are final, no late submissions will be accepted, unless there is a written note from a physician.

**Poster - details – total 11%.**

In order to get maximum 11% you need to fulfill the criteria listed below. Further description of each category will be provided in class.

1. 1- rationale of the study, and importance to the field
2. 1- clear hypothesis or research question
3. 1- short description of the measures
4. 1- short description of the statistical procedures
5. 1- the main results, not dwelling into tiny details of the study
6. 1- results presented with the usage of appropriate graphs or figures
7. 1 – results presented with the usage of appropriate
8. 1- highlights of the discussion (neither limitations nor invitations for futures studies)
9. 1- key conclusions
10. 1- references: selection of the most relevant literature
11. 1- general appearance: colors, fonts, size of the poster

**PowerPoint - details – total 10%.**

In order to get maximum 10% you need to fulfill the criteria listed below. The further description of each category will be provided in class.

1. 1- video or other interactive visual elements (action factor)
2. 1- clear hypothesis or research question
3. 1- measures,
4. 1- statistical procedures
5. 1- results
6. 1- discussion,
7. 1- conclusions, limitations,
8. 1- anecdotes (stories) related to this project,
9. 1- oral part: interesting, entertaining, challenging way of the presentation
10. 1- general appearance of slides: colors, fonts,

**Paper - details – total 31%.**

In order to get maximum 31% you need to fulfill the criteria listed below. Further description of each category will be provided in class.

1. 1- front page: title, affiliations of the authors, address of the first author, running head, page number, few first words before the page number
2. 1- abstract page: rationale, measures, statistical procedure, sample size, main results, main conclusions
3. 1- text written in APA style
4. 1- elegant outline: the same font, subtitles, page outline, graphs and table correctly numbered,
5. 1- introduction: review of relevant literature findings – at least 5, clearly explains how these references lead to the development of your hypothesis and are related to your study.
6. 1- introduction: rationale for the project – indicate uniqueness of your study
7. 1- introduction: importance to the field
8. 1- introduction: clear hypothesis or research question
9. 1- introduction: clear operational definitions of the constructs included in the hypothesis or research question
10. 1- methodology: indication of the research design type
11. 1- methodology: indicating the dependent and independent variables
12. 1- methodology: description of the measure – psychometric features if possible
13. 1- methodology: procedure of collecting data,
14. 1- methodology: rational for usage of particular statistical procedure(s) other than those used in descriptive part, like ANOVA, chi-square
15. 1- methodology: formula relevant for statistical procedures, describe all symbols from the formula

16. 1- methodology: participants - demographics of the researched sample: gender, age (range, mean, SD or frequencies)
17. 1- results: presented as appropriate graph(s) – appropriate title indicating the essence of presented results and applied statistical procedure, sample size, description of axes, all symbols and abbreviations need to be explained
18. 1- results: presented in appropriate table(s) – appropriate title indicating the essence of presented results and applied statistical procedure, sample size, description of rows and columns, all symbols and abbreviations need to be explained
19. 1- results: appropriate verbal description of the results - text built close to the tables and graphs, but not in redundant way
20. 1- discussion: comparison of your results with findings from other studies, at least 3.
21. 1- discussion: explanations given for the observed phenomena and obtained results, at least 3, citations required.
22. 1- discussion: explanations of non-significant or less-significant findings: at least 1.
23. 1- conclusions: clinical and/or daily life implications: at least 3.
24. 1- strengths: at least 3
25. 1- limitations: at least 3.
26. 1- indications for future studies: at least 3 – note: they cannot be indications of replication of your study
27. 1- references: adequately presented in the body text
28. 1- references; written in APA style
29. 1- clarity of writing: accurate usage of professional vocabulary, redundancy avoided, interesting story to read, smooth transitions between paragraphs: - relevant for introduction, methodology and results
30. 1- clarity of writing: accurate usage of professional vocabulary, redundancy avoided, interesting story to read, - smooth transitions between paragraphs- relevant for discussion, conclusions, limitations and indications for future studies
31. 1- overall quality: this is opinion of the instructor whether your paper is publishable and/or worth presentation at the conference.

### **Team self-evaluation – 10%**

Team self-evaluation section is designed to reflect and discriminate your and your colleagues' participation in the project. Each week, you will meet as a research team and work on your experiment. This will give you the chance to apply the principles that are discussed in class. Your team members will rate the amount of effort you have put into the team assignments. The rules you establish as a team will also be used to judge your team participation. Attendance will also be a factor.

Each member of your team, including yourself, will grade your activity in each category listed below, on a continuum scale between 0.0 and 1.0. Further descriptions of these categories will be provided in class. The sum of means from each category will be your total grade in team self-evaluation section. This grade will be rounded to the nearest whole point.

- |  |  |
|--|--|
| 1. attendance during team meetings                         | 7. applying statistics   |
| 2. brainstorming, crystallizing idea of the study          | 8. presenting data (text, graphs and tables) and analyzing data              |
| 3. writing IRB proposal                                    | 9. writing the paper   |
| 4. doing literature review                                 | 10. working on PowerPoint and Poster and active presentation of both of them |
| 5. creating or selecting the measure                       |  |
| 6. collecting and coding data – paper or on-line data base |  |

### **Please note:**

- 1) Please provide the differentiated evaluation of yourself and colleagues from your team. In this way, you will show respect for those who worked extra hard, as well as be fair and honest to those who did not.
- 2) If you do not provide the team-self evaluation in the timely manner, the grades you provide will not be taken into account. Additionally, the average you receive from your colleagues will be halved.

**Final grade:**

A: 92.00-100 %	B -: 79.50-81.99%	D +: 66.00-69.49%
A - : 89.50-91.99%	C +: 76.00-79.49%	D: 62.00-65.99%
B +: 86.00-89.49%	C: 72.00-75.99%	D -: 59.50-61.99%
B: 82.00-85.99%	C -: 69,50-71.99%	E: 59.49% or less

The Brigham Young University administration has **discontinued the UW** (unofficial withdrawal) as a grade option. Students will only be **able to withdraw officially (W)** from a class in accordance with the timeline and procedures published in the Grading and Records section of the BYU Undergraduate Catalog.

---

**Course Description & Objectives:** The objective of Psychology 302 is to teach students basic principles for understanding, designing, conducting, and reporting psychological research. For some of you, this course will be your only opportunity to study the processes by which conclusions emerge from scientific investigations. This course will teach you to be a discerning consumer of research. For the rest of you, this course will be a first step toward learning the necessary skills to conduct your own research at the undergraduate, graduate, and professional levels. In either case, as we learn about the problem-solving nature of research, we will develop our critical thinking abilities. Thus, at the end of the course you will be expected to demonstrate an ability to formulate, execute, and disseminate sound research ideas and critically evaluate the research ideas of others. Equally important will be our discussions of ethics in research. This course will introduce you to ethical issues related to human and animal participation, as well as discuss the ethics related to data analysis and presentation. You will learn how to design an ethical study and how to conduct yourself and your research in an ethically appropriate manner.

The process of conducting research consists of the following four basic steps: 1) Designing the study; 2) collecting the data; 3) analyzing the data; and 4) reporting the results. This course will focus primarily on steps 1, 2, and 4, since you should already be familiar with data analysis (step 3) from Psychology 301 or the equivalent. There will, however, be some data analysis in this class. **Psychology 301 (Psychological Statistics) or its equivalent is prerequisites for the course. You must have successfully completed Psych 301 or the equivalent to register for Psych 302.**

**Class Environment:** It is very important to me to create a class environment in which the development of each student becomes everyone's goal. I ask you to pledge yourself to helping each of your classmates get the most from this learning experience. I believe that the best class environment for achieving this goal is one in which each student feels encouraged, affirmed, and challenged supportively by others (including me). Together, we can establish a place where each of us feels safe to take the risks that are part of sharing our opinions and trying the unfamiliar. In this class, you will be asked to share your reactions to readings and other topics. In order to create this positive class environment, at least two norms must be established. First, each class member must feel invited, but not compelled, to share personal material relevant to the content of this course. Second, we must have an affirming, welcoming stance for differing viewpoints and life experiences. Every viewpoint and every perspective has great value for our learning in this course. Perhaps the most valuable are those perspectives and opinions that differ from our own or from what might seem to be the prevailing opinion. Please join with me in working to create such an atmosphere in our class.

It is also important to me that you know that I am open and willing to consider any feedback regarding the course. Therefore, please do not hesitate to share your thoughts about what is helpful or challenging about the course. My door is always open for such interaction. Please also understand that I need to reserve the right to alter this syllabus if it is in the best interest of the class.

If you feel you have a legitimate complaint about a grade on an examination or project, you are encouraged to appeal the grade. This requires submitting to me a well-reasoned and highly specific explanation of what you feel is the problem. I will reread your entire examination and/or paper. If this results in an alteration of your grade (higher or lower), the second grade will replace the original grade. Grade appeals can only be made within the two week period following the return of the paper or exam.

Any student with special needs or any student requiring special assistance (as defined by the university) please

talk to me as soon as possible.

**Honor Code:** In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact be your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university. Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

### **Plagiarism**

It is an act of plagiarism to "borrow" ideas or quotes from former students' old papers and from the papers of students presently taking the course with you. Plagiarism also includes quoting or paraphrasing passages from any of your references without giving proper credit to the real authors (i.e., an APA-style citation), because doing so implies that this information came from you. Presenting the ideas of others as one's own is called plagiarism. Plagiarism, as defined by the BYU Honor Code, is a form of intellectual theft. It is an act of fraud; it is dishonest, deceitful, unethical, and can lead to serious and lasting negative consequences for your academic and professional career. For this reason, please follow the course guidelines for when and when not to read other 378 students' papers (including those from other sections) or have them read yours. In addition, please use only those sources that meet the course criteria for acceptable reference materials.

**Preventing Sexual Harassment:** Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education. Title IX covers discrimination in programs, admissions, activities, and student-to-student sexual harassment. BYU's policy against sexual harassment extends not only to employees of the university, but to students as well. If you encounter unlawful sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 422-5895 or 367-5689 (24-hours); or contact the Honor Code Office at 422-2847.

**Students with Disabilities:** Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the Services for Students with Disabilities Office (422-2767). Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. Services are coordinated with the student and instructor by the SSD Office. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.

**Learning Outcomes:** Each program at BYU has developed a set of expected student learning outcomes. These will help you understand the objectives of the curriculum in the program, including this class. To learn the expected student outcomes for the programs in the psychology department and college go to <http://learningoutcomes.byu.edu> and click on the College of Family, Home and Social Sciences and then the psychology department. We welcome feedback on the expected student learning outcomes. Any comments or suggestions you have can be sent to [FHSS@byu.edu](mailto:FHSS@byu.edu).

**Flu policy:** As are all large communities, BYU is preparing for the potential of the H1N1 influenza virus to spread rapidly throughout the campus during the coming winter. Details of BYU's preparation, and advice on what you can do to prepare, can be found at [flu.byu.edu](http://flu.byu.edu). Please read it! In order to contain any possible infection, the administration has advised course instructors to ask any student who is feeling sick with flu-like symptoms (fever with either sore throat or cough) to remain home, away from class and away from all large

gatherings. Sick students should remain at home until at least 24 hours after the fever has gone away. Students should also call their doctor or the student health center for advice as soon as possible. The administration has asked course instructors to provide adequate make-up opportunities for all work missed during a flu-like illness. Accordingly, I will allow all time as needed to miss class during an illness and to make up work at a reasonable time afterward, provided the student provides a doctor's note to document the illness. ALL students who feel sick with fever and sore throat or cough should call the doctor and visit if so advised. If advised to visit the doctor, please obtain a note whether or not you are diagnosed with the flu! When you are ill please call or email your TA or the instructor as soon as possible, and *continue to communicate* with us until you are well. You should also be in contact as much as possible with one or two class members, in order to keep up on what you miss. We will try to facilitate class communication from the beginning of the semester. For your protection, your instructors will follow the same rules! If your instructor is sick he or she will try to find a replacement to carry the class forward, else will notify students as soon as possible about a class cancellation.

***Be creative and have fun !***