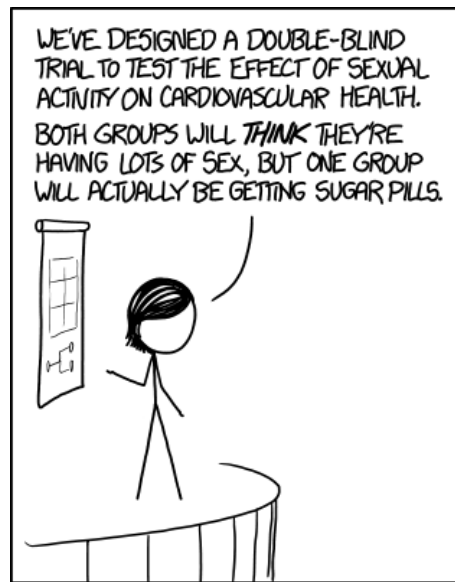


Psychology 2030a:  
Methods and Statistics  
Spring 2017



THE LIMITATIONS OF BLIND TRIALS

<http://xkcd.com/1462/>

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Psychology 2030 is intended as a gentle introduction to the scientific methods and statistical techniques commonly used in psychological research. Emphasis is on these methods and statistics as ways of thinking about observations and phenomena, rather than on the blind application of research designs and mechanical aspects of calculation. An ability to read and to understand the original scientific literature is the ultimate goal; comprehension of research designs and statistical methods as tools (as opposed to virtuosity with a hand calculator and mystical equations) is the proximate goal. To that end, lectures and discussion will critically examine induction and statistical thinking in the context of everyday claims in medicine (e.g., the benefits of “screening”, interpreting test results, claims for the efficacy of “alternative” medicine, etc.), epidemiology, and so on. Many will find that these discussions may challenge one or another of their core or long-held beliefs. Good. How to mount these challenges and to engage in critical thinking about everyday claims represent the fundamental “take-home” messages of the course.

## Textbook

The other critical aspect of the course is the introduction to statistics as used by experimental psychologists. As such, the emphasis is on the use of statistical techniques as actually occurs in experimental psychology, rather than on an introduction to statistics as a mathematical discipline. All of the materials for this aspect of the course, and some others (e.g., writing in APA style), have been collected into a book by John R. Vokey and Scott W. Allen, entitled *Thinking with Data* (7th Edition). This book is available from the bookstore. The latest version is always available in portable document format (pdf) on Moodle at: <http://moodle.uleth.ca>. Additional readings will be made available via Moodle.

## Evaluation

Evaluation will consist of three take-home exams, two midterms and a final, each worth 1/3 of your final grade. Each test will examine both methodological and statistical issues and will consist of short-answer questions. Each exam must be word-processed (i.e., *not* hand-written) and should be handed in either in class or to the wooden drop boxes near the Psychology main office (C866). In addition to handing in a paper copy, you must also hand in an electronic copy to the electronic dropbox within Moodle—only the

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<b>Exam</b>	<b>Due Date</b>
<b>Midterm 1</b>	<b>by 10:40 am, Thursday Feb. 9</b>
<b>Midterm 2</b>	<b>by 10:40 am, Thursday March 16</b>
<b>Final Exam</b>	<b>by 5:00 pm, Friday, April 21</b>

paper copy will be marked. Exams will be made available a week before they are due. Exams will be cumulative only in the sense that life is cumulative. That is, although the focus will be on material covered since the previous midterm, understanding that material may well depend on the quality of your understanding of the prior material.

*No excuses for missed tests will be accepted other than documented, prolonged illness. Make-up tests will not normally be provided.* The work you submit on your exams *must be your own*. It is an academic offence to submit someone else's work as your own. Please see section 4 of Academic Regulations, Student Discipline Policy—academic offences (p. 75 of the 2016-17 academic calendar) for details.

## **Calculator and Computer Spreadsheet**

A good hand-calculator will prove useful for the course. At a minimum (beyond the standard arithmetical functions), the calculator must have a square-root function. More sophisticated functions, such as summation, factorial, permutations and combinations, standard deviation, correlation, etc., may prove useful, but are not essential. As virtually all of the statistical methods covered in the course can be programmed in a spreadsheet, access to a computer spreadsheet program is probably even more useful, but, again, is not required.

## **Letter Grades**

The values in the table below will be used as a guideline to convert scores out of 100% to minimum letter-grades, although the instructor reserves the right to adjust individual grades upward to reflect such aspects of performance as a marked improvement over the semester.

## Students with Special Needs

If you are a student with special needs and wish help with your classes, you may receive help by contacting the Accomodated Learning Centre <https://www.uleth.ca/ross/accommodated-learning-centre/>.

## Questions and Discussion

Preferably, all questions and discussion about the course material should occur during class time, including questions and discussion about the exams, so that all students benefit from the discussion. Each lecture will begin with an explicit call for questions, although students are encouraged to ask questions at any time during the class. In addition, students are encouraged to post questions and commentary to the class email list: [psyc2030a@uleth.ca](mailto:psyc2030a@uleth.ca), both to provoke discussion, and to receive clarification (if needed) from the instructor and the TAs for the course; doing so will most often result in a prompt and considered response. Grades and supplementary materials will be made available via Moodle <https://moodle.uleth.ca>, so be sure to familiarize yourself with the system.

## Research Participation

This course is designed to provide students with an opportunity to participate in active research programs of faculty members. This participation allows you to get direct experience in how many of the experiments and studies you will read and hear about are actually done (at least those involving human participants), and provides an opportunity for you to see what goes on in the labs, and meet senior undergraduate and graduate students conducting their own laboratory research projects. Calls for volunteers to assist in these projects will be made during the semester, generally, through the Sona system. If you choose to volunteer, each project usually requires less than one hour of your time, but the exact time commitment will depend on the individual research project. In recognition for your time, and in recognition that you are learning something about the discipline of psychology, beyond what you would in the normal classroom environment, an extra credit of 1% for each study in which you participate will be added to your total grade to a maximum of 5% (so, it is theoretically possible to score 105% in this course). Note that there is no guarantee that all or even any students will be able to achieve the maximum extra credit. As these are extra credits,

Table 1: Percentages will be converted to minimum letter-grades using this scale. Note that marks will not be rounded (i.e., 69.9% is less than 70% and is thus a C+. 70% is, of course, a B-). Minimum letter-grade here refers to the lowest letter-grade that will be assigned on the basis of your objective performance; however, higher letter-grades may be assigned at the discretion of the instructor as noted in the text of the outline. Note that this does not mean that I will round your grade up because you really, really, really want a higher mark—so don't ask.

Percentage	Grade	Percentage	Grade
90-100	A+	67-70	C+
85-90	A	63-67	C
80-85	A-	60-63	C-
77-80	B+	55-60	D+
73-77	B	50-55	D
70-73	B-	<50	F

students who choose not to participate are not disadvantaged.

The available studies will be listed on the system at <http://psychleth.sona-systems.com>. Your username and password will be emailed to you (i.e., it won't be your email password). The system should be available starting around January 17, 2017 and the deadline for participating in research is April 8, 2017.

## Class Times

Classes are scheduled from January 10, 2017 to April 6, 2017, Tuesdays and Thursdays from 9:25 am - 10:40 am in PE 275.

## Consultation Outside of Class

No formal office hours are scheduled. Rather, I may be contacted in my office, UH-D864. Please feel free to drop in with any questions, comments, or opinions you may have. I would prefer that in the first instance you use e-mail to communicate with me ([allens@uleth.ca](mailto:allens@uleth.ca)) and your fellow classmates ([psyc2030a@uleth.ca](mailto:psyc2030a@uleth.ca)).

## Web Sites and email

### Course Information

All students have a U of L email account. Your Moodle username is equivalent to your email username (the part of your email address that comes before “@uleth.ca”) and your Moodle password is your email password. You will need to access Moodle (<https://moodle.uleth.ca>) in order to obtain course information, exams, and supplementary material. If you require assistance with anything related to using computers at the U of L, please contact the Student Help Desk.

### Email Accounts

The primary method of communicating with you for general notices will be via email and in-class announcements. Please be sure you check your U of L email account on a regular basis, or have that account forwarded to your usual email provider. Please do regular housekeeping so that you do not miss important notices that relate to this class due to a full mailbox.

Having taken care of all the housekeeping, allow me to finish by noting that there is much in this course that is fascinating, fun, and intellectually rewarding, and I sincerely welcome you to it.

- Dr. Allen

