

Psychology 2030n:  
Methods and Statistics  
Fall 2014



<http://xkcd.com/892/>

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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/computer program and mystical equations is the proximate goal. To that end, lectures and discussion will critically examine statistical thinking in the context of quotidian (or spectacular) claims in medicine (e.g., the benefits of “screening”, interpreting test results, claims for the efficacy of “alternative” medicine, etc.), epidemiology, law (e.g., the reliability of fingerprint identification, DNA “fingerprinting”, etc.), and so on. Many may find that these discussions challenge one or another of their core beliefs, or even the medical regimen of a relative, friend, or themselves. Good. How to mount these challenges and to engage in critical thinking about such 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 (Seventh Edition)*. This book is available at the cost of printing and distribution from the bookstore (in a nicely-bound, double-sided format). The latest, hyper-linked, digital version of the book is always freely available in portable document format (pdf) on the web at: <http://people.uleth.ca/~vokey/pdf/thinking.pdf>, and changes as whimsy hits us (or students uncover errors or infelicities of prose). The printed version also has a Simpsonized™ cartoon of a platypus on the cover (a slightly mocking tribute to O'Reilly Books)—what could be more cool than that?

## Evaluation

Evaluation will consist of three *take-home exams*, each worth 1/3 of your final grade, and made available via the web and e-mail. The first of these will be made available *Thursday, September 25, 2014* to be submitted no later than the following class, *Wednesday, October 1, 2014*; the next will be made available on *Thursday, October 23, 2014* to be submitted the following class, *Wednesday, October 29, 2014*; and the final will be made available *Thursday, November 27, 2014* to be submitted to the course drop-box in the Psychology Department no

later than *Wednesday, December 10, 2014*. Each take-home exam will consist of ten, short-answer questions, of which you choose six to answer. The values shown in the conversion Table 1 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.

The work you submit for your take-home 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 Offences, Student Discipline Policy—academic offences (p. 78 of the 2014 academic year calendar) for details.

## 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, 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, via e-mail. If you are asked to volunteer, and you accept, each project usually requires typically 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 3% (so, it is theoretically possible to score 103%). 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, 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 will be the same one you use to access Moodle. A password will be emailed to you (i.e., it won't be your email password). The system should be available starting around September 12, 2014 and the deadline for participating in research is December 4th, 2014.

## 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. The first part of each class has been explicitly set as a question and answer period, although students are encouraged to ask questions at any time during the class. This dialogue is especially important as we meet only once a week. In addition, students are encouraged to post questions and commentary to the class email list: [psyc2030n@uleth.ca](mailto:psyc2030n@uleth.ca), both

Table 1: Assignment-exam percentages will be converted to minimum letter-grades using this scale. 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.

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

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 generous supplementary materials will be made available via Moodle <https://moodle.uleth.ca>, so be sure to familiarize yourself with the system.

## Class Times

Classes are scheduled from September 3, 2014 to November 25, 2014 for 6:00–8:50 PM, Wednesday in PE 275.

## Consultation Outside of Class

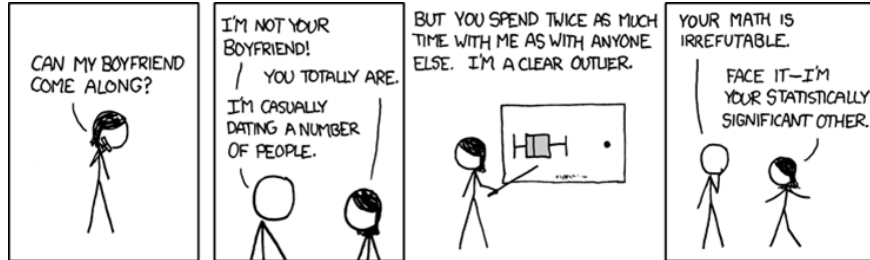
No formal office hours are scheduled. Rather, I may be contacted in my office, UH D862, or my lab, UH C810. Please feel free to drop in with any questions, comments, or opinions you may have. I would prefer that in the first instance you use e-mail to communicate with me ([vokey@uleth.ca](mailto:vokey@uleth.ca)) and your fellow classmates ([psyc2030n@uleth.ca](mailto:psyc2030n@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.

Figure 1: <http://xkcd.com/539/>



## Email Accounts

Our 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.

