

22S:158 (STAT:3210) Experimental Design and Analysis 22S:165 (STAT:5201) Applied Statistics II

Russell V. Lenth

Spring Semester, 2012
(Last updated January 25, 2012)

Time and Place	Monday, Wednesday, Friday 9:30 am–10:20 am, 61 Schaeffer Hall
Prerequisites	22S:158: 22S:30 and 22S:152 — 22S:165: 22S:164 or equivalent
Textbook	Lawson, John (2010), <i>Design and Analysis of Experiments with SAS</i> . Chapman and Hall/CRC Press, ISBN 978-1-4200-6060-7.
Class Web page	http://www.stat.uiowa.edu/~rlenth/Design/ Grades will be posted on ICON: http://icon.uiowa.edu/
Instructor	Russell V. Lenth, 271 Schaeffer Hall, 335-0814, russell-lenth@stat.uiowa.edu
Office Hours	Monday and Wednesday 11:00–noon, Thursday 2:00–3:00 pm; and by appointment
Statistics office	DEO: Professor Luke Tierney, 241 Schaeffer Hall, 335-0712

Course Goals

The main lesson to be learned in this course is that **how you collect data** matters a lot; and that in turn dictates how data should be analyzed. Often, a good design leads to a very simple analysis.

Topics

The course will emphasize Chapters 1–5, 8, and 9, with some additional supplementary materials provided in notes (and posted on the web) and materials from other chapters as is possible.

Course work

There will be weekly assignments, two regular exams, five quizzes, and a comprehensive final exam. The dates of the exams and quizzes are given in the section on grading. Some or all of the quizzes may be replaced by some kind of project work, if we can figure out how to organize it. Also, some portion of the exams may be take-home. Please note the section below on academic honesty; any instances of academic fraud will have serious consequences.

Some homework problems and exam questions may be designated only for students in 22S:165 or only for students in 22S:158.

Working with another student on homework is OK; however, you must (1) write your homework papers independently, and (2) write the name(s) of your study partner(s) on your homework papers. Note that **the date and time of the final exam is not yet known**. We are required to hold the final exam on the date that will be decided by the UI administration around March 1. **Therefore, do not commit to any travel plans during finals week! If you fly home early, you will get a zero on the Final.**

Grading

Grading elements are weighted as follows:

Exam 1	Wed, Feb 29	20%
Exam 2	Wed, Apr 11	20%
Quizzes (5)	Feb 1, 15; Mar 21; Apr 4, 25	20%
Final exam	(Date & time TBA)	30%
Homework	Weekly, due on Fridays	10%

The basic cutoffs between whole-letter grades are at 90, 80, 70, etc., and the determination of minus, unmodified, or plus is based on the ones digit being in the sets (0,1,2), (3,4,5,6), and (7,8,9). For example, the A-minus range is 90.00–92.99, and the B range is 83.00–86.99.

For students enrolled in 22S:158, I will add 2.5 points to their course averages before applying these cutoffs.

Some portions of homework, quizzes, and exams may be designated for one course or the other.

Grading standards

Running programs is not the same thing as doing a complete data analysis. Thus, **you will get little or no homework credit for just submitting computer output without a written interpretation** that actually addresses the question asked in the problem.

Finally, you should *show* the computer code you used, but *omit* sections of computer output that are not really needed to answer the question at hand.

Late work and absences

Barring illness or family emergencies, late work is not accepted. In the event of such an emergency or illness, you must notify me as soon as possible—within 24 hours. If you miss class, try to obtain notes from other students. Most handouts will be available from the website; but lecture notes will not. If there is a pattern of excessive absences from the lecture, I will warn you; if the pattern continues, I will drop you from the course.

Computer software

We will use SAS as the primary tool for data analysis. Web-based Java applets provided by the instructor will be used for simulations and sample-size determination.

Administrative policies

The following policy and procedural statements are extracted from the College of Liberal Arts and Sciences policies site, <http://www.clas.uiowa.edu/faculty/teaching/policies.shtml>.

Administrative Home

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS [Academic Policies Handbook](#).

Electronic Communication

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

Accommodations for Disabilities

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See <http://www.uiowa.edu/~sds/> for more information.

Academic Honesty

All CLAS students have, in essence, agreed to the College's [Code of Academic Honesty](#): "I pledge to do my own academic work and to excel to the best of my abilities, upholding the [IOWA Challenge](#). I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled ([CLAS Academic Policies Handbook](#)).

CLAS Final Examination Policies

The date and time of every final examination is announced during the fifth week of the semester; each CLAS student will receive an email from the Registrar stating the dates and times of the student's final exams. Final exams are offered only during the official final examination period. **No exams of any kind are allowed during the last week of classes.** All students should plan on being at the UI through the final examination period.

Making a Suggestion or a Complaint

Students with a suggestion or complaint should first visit with the instructor (and the course supervisor), and then with the departmental DEO. Complaints must be made within six months of the incident ([CLAS Academic Policies Handbook](#)).

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI [Comprehensive Guide on Sexual Harassment](#) for assistance, definitions, and the full University policy.

Reacting Safely to Severe Weather

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the [Public Safety web site](#).