

Instructor	M. Stob
Office	NH 279
email	stob@calvin.edu
Phone	x6-7114, 949-8170 (home, before 11 PM)
Office Hours	most afternoons from 1:30–3:30, drop in any time I am around
Text	<i>Stats: Data and Models</i> DeVeaux, Velleman, Bock (second edition)
Website	www.calvin.edu/~stob/courses/m243/S10
Tests	February 19, March 5, March 18, April 16, April 30 (see below)
Exam	Friday, May 14, 6:30 PM

Course Goals

1. To understand and use several basic statistical summaries (numerical and graphical) to summarize data sets.
2. To understand the principles underlying important data-collection procedures (such as random sampling and randomized comparative experiments).
3. To understand the basic principles that allow us to draw conclusions about a large population from information collected from a smaller sample.
4. To understand in detail the mathematics involved in several of the most commonly used statistical procedures.
5. To be aware of the assumptions under which the use of these statistical procedures is warranted, and to see examples of their use (and misuse) on authentic data.
6. To become an educated consumer of statistics as reported in the mass media and in technical reports.
7. To understand how statistics can be used to pursue truth, but also how its misuse can lead to distortion or concealing of the truth.

Reading **Read the textbook.** You will notice that the textbook is written for students who are not as well-prepared as you are. In particular, it does not assume knowledge of calculus. However because the book is written a bit “beneath” your level, it should be much easier for you to read than the typical mathematics text. If you can get past the bits where it seems to talk down to you (and if you ignore some of the really lame humor), you’ll find that it explains some very difficult and important ideas well. The three authors all are nationally recognized for being great expositors – their AP Statistics textbook is used by tens of thousands of high school students each year. You will have reading assignments due each day. Sometimes the reading will be on material we have already covered and sometimes on new concepts. In either case, it will be very helpful to you if you read it on time. **Read the textbook.** There will also be supplementary notes from time to time to cover some of the topics not in the text.

Homework Besides reading assignments, homework will be assigned daily. Homework comes in two forms. Some problems will be practice problems for you to do. They will not be collected or graded but they will be discussed in class (if you ask about them) and they will be useful practice. Each day a few problems will be assigned that will be collected. Problems will be collected twice a week (on Tuesday and Friday) and these problems will be read carefully by your instructor. Only problems turned in on time will be graded. The homework schedule is on the course webpage and you are responsible for knowing the correct due dates without any particular classroom announcement.

Tests There will be five tests. Each test has two components: a short in-class section that covers important concepts and a take-home component that in general will require the use of the computer and some exposition. The in-class dates are February 19, March 5, March 18, April 16, and April 30. The take home problems will be assigned at least by the class period before these dates and will be collected no earlier than the class period after these dates. More information about the format of the tests will be given well in advance of the first test. There are no makeup tests.

Project There will be a project due late in the semester that requires you to conduct a statistical study. You will formulate a research question, collect data relevant to the question, perform an appropriate analysis, and write a report about your results. This project may be done alone or in groups of two or three.

Final Exam The final exam is given only at the scheduled time. The college requires that I give and you take the exam at this time! The final exam is cumulative. A portion of the exam may be take-home.

Collaboration It is perfectly acceptable to help each other. I encourage you to work together on any assignment unless I explicitly say otherwise. Of course academic honesty and common sense require that only honest effort on your part be rewarded; do not turn in “joint” work which is really only the work of someone else. However you do not have to feel guilty turning in work that reflects mostly the good ideas of someone else if you were genuinely working together. Even if your work is joint, you should write your own solutions as independently as possible. That is, do not simply copy from others. This is to ensure that you really understand the solution. You should always indicate who you collaborated with on a problem. Failure to do this is a form of academic dishonesty.

See Me If you are having trouble with the course, if you don't understand something important, if you have some special circumstance that is getting in the way of performing well in this class, or you just want to talk about the course, **see me**. While I have office hours, I encourage you to come see me anytime that I am in my office. While I check email regularly and will answer it promptly, email isn't very useful for answering the more technical questions that might come up in homework. Also, don't assume that just because you are awake and writing email that I am awake and reading email!

Attendance I do not require attendance or make attendance any part of the grade. If you miss class for any reason however, you are responsible for determining what you missed. The outline handed out each day will be posted on the web soon after class to help you determine that. Likewise I will try to post any handouts or important announcements. No reason for missing class

excuses any late homework. If you plan to miss class on a day that homework is due, make sure that your homework is turned in somehow (unless you do not want it to count). I plan to start on time and end on time and common courtesy to your classmates suggests that you plan likewise. If you must come late or leave early (it happens), be as unobtrusive as you can.

Disabilities Calvin will make reasonable accommodations for persons with documented disabilities. Students should notify the Coordinator of Services for Students with Disabilities located in the Student Academic Services office. Students requiring such accommodations should meet with me during the first week of class.

Final Grade Your final grade F will be computed from your grades (suitably normalized) on the homework (H), project (P), tests (T), and final exam (E) by the following formula:

$$F = .25E + .25T + .15H + .10P + .10 \max(E, H) + .15 \max(E, T)$$

In order to account for the fact that you may not be able to take all the tests (due to illness, athletic events, or mysterious events involving non-functional alarm clocks), T will be computed by using your exam grade for any test for which the exam grade is greater. (Note that this policy implies that $T \geq E$ in the equation above since each test will be at least E .) Your homework grade will be based on the homework that you turn in on time. Since late homework is not accepted for any reason, a 90% score on the homework will be considered perfect.

Exceptions I reserve the right to make changes or exceptions to the above policies either for the whole class or for individuals. The ultimate goal in this course is learning and formal requirements should not unnecessarily stand in the way of this. As a consequence, if you (individually or collectively) think that any of the above conditions are interfering with learning, let me know and we'll see what can be done.

Statistical thinking will one day be as necessary for effective citizenship as the ability to read and write.

H. G. Wells

An approximate answer to the right question is worth a good deal more than the exact answer to the wrong problem.

John Tukey