

STAT 830

Overview

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STAT 830 — Fall 2020

Purposes of These Notes

- Outline the contents of this course
- Establish the grading structure
- Outline expectations
- Discuss the lack of a text and coverage in the text

- Richard Lockhart.
- `lockhart@sfu.ca`.
- `http://www.stat.sfu.ca/~lockhart`.
- K10561 is my office number – useless this fall.
- Office hours: will be on-line, drop in Zoom calls.
- I will try to make myself available at times which work for people wherever they are.

The Text

- **Text:** *All of Statistics* by Larry Wasserman. The text is not required but I have organized my presentation of the material around it.
- **Coverage:** Chapters 1 through 12 illustrated by items in as many of the remaining chapters as possible. We start at chapter 6; the material on probability in chapters 1 through 5 is either review or will be covered as we need it in the rest of the course.
- **My notes:** on the course page web page you will find a link to *Course notes (132 pages)*. These notes elaborate somewhat on the slides. You can download them all as a pdf or download individual sections using links beside the slides.

Assignments

- There will be about 5.
- The first is due next Thursday, 17 September.
- They have computing components, writing components and the usual mathematical components.
- They are not undergraduate assignments where a string of equations with no words constitutes an adequate answer.
- You need words and explanation of what you are doing.

Grading

- The assignments are worth 50% of your final grade.
- You are free to talk to each other about them but if I think you are copying each other or copying things you found on line (particularly old solutions of mine) I will be livid.
- There will be 3 on-line quizzess worth 30%. I currently have them scheduled for the second hours of the classes on 24 Sept, 22 Oct, and 12 Nov. This is subject to change once I know who is in the class and where they are attending from.
- Students will choose between making a zoom presentation and writing a paper. This will be worth 20% and will happen late in the course. There is no final exam.
- Exams are open book. I am going to permit you to read my notes and books on-line during the exam but NOT to make contact with other people while doing the exam.

Other

- **Web:** I will put lecture notes (beamer slides) on the web in advance; I expect you to read them in advance. I will (try to) tell you the next topic at the end of each lecture. This year I will be trying to have more discussion and less lecturing in class. That is what I said 5 years ago and I am going to try again; in an on-line environment this won't work without effort so we will see what happens.
- I will not always be using the lecture notes in class, however. I will write on a virtual white board in spite of my appalling handwriting; I intend to post the resulting files on-line after the class.
- You should also feel free to look at other courses I have offered over the years.
- For the first time in my career I will be using Canvas. Much of the material will probably also be on my web site either <http://www.stat.sfu.ca/~lockhart/here> or <http://www.sfu.ca/~lockhart/here>. The recorded lectures will likely not, however.

Detailed Course Outline

- This outline might grow as the term goes on but it did not the last time I taught this course.
- We start with a discussion of models.
- Then I intend to run through the basics of non-parametric methods.
- Then likelihood methods followed by asymptotics / large-sample theory.
- The multivariate normal distribution.
- Hypothesis testing.