Digest 8

(A compilation of emailed homework questions, answered around Tuesday.)

Question. (From a student): Will we have questions related to entropy in the final exam? or what part of the theory should we memorize? (because I find the reasoning part is hard to comprehend) BTW, I found final exams from previous MATH118 class on math center website, I was wondering whether there are solutions to these question or not? Thank you so much for your help!

Answer. No. The entropy question I covered in the 12PM section was only an illustrative example for Lagrange multipliers.

I posted solutions for the two most recent 118 exams (and the link you mention) on the course website. The exams from years before the most recent two were based on a different textbook, so they are probably not as relevant, so I did not write solutions for them.

Here are the links again in case you missed them:

https://dornsife.usc.edu/mathcenter/118/

http://www.stevenheilman.org/ heilman/teach/118f17finalsoln.pdf

http://www.stevenheilman.org/ heilman/teach/118s18finalsoln.pdf

Question. (From a student): How does the curving work in this class?

Answer. The curving is complicated, but it can be roughly described as assigning a letter grade to each exam you take, and then following the weighting of different assignments specified in the syllabus.

More precisely, we use the weighting described in the syllabus to assign everyone a "raw score," i.e. a number from 0 to 100. For example, if you got 100% on the homeworks/quizzes, 50% on both exams and 60% on the final, your raw score would be the maximum of the following numbers: $15(1)+20(.5)+25(.5)+60(.6)$, and $15(1)+35(.5)+60(.5)$. So, your raw score would be the maximum of 73.5 and 62.5, i.e. your raw score would be 73.5.

And then different cutoffs are assigned for different letter grades according to your raw score. The assignment of cutoffs follows procedures specified by the mathematics department (for a total number of A's and B's that can be given out, for example). As I've mentioned before, if you show significant improvement in the class (to be determined and judged solely by me, but roughly using your performance on both exams and the final), and if you are near a grade cutoff, I will adjust the cutoff to give you the higher grade (say, B+ instead of B).

Also, if you all as a class do better than the other 118 classes on the final exam, this means I can make your grades higher than the other 118 classes.

Question. (From a student): How should I study for the final?

Answer. All of the 118 instructors are writing the final together. So, the final will probably not resemble my exams (except for 2-3 questions), and it will instead probably look very similar to the finals from the last two years.

Once I know the exact content of the final I will let you know what it is, but a majority of its focus should be on things from the second half of the semester. To see what I mean, look at the final exams from the previous two semesters.

As for studying, unlike the previous exams, I would recommend your primary source to be the textbook, and problems from the textbook (such as the online homeworks).

If enough people request it, I will put some ungraded (new) online homework assignments that could be helpful for the final. Some questions might be repeats of old ones, but some would not be.