AMS 315, Fall Semester 2021

First examination grading and participation score

This file contains the discussion of the grading of the first midterm and the determination of your class participation score.

AMS 315 Examination 1 Grading

The upper quartile point of the first midterm examination scores was 265; the median was 220; and the lower quartile point was 170.

Each of the announcements about this examination stressed that the examination was due to be submitted before 6:20 (or SASC extension). Consequently, each of you was on notice that you should have a watch or wall-clock or other timepiece to monitor your time. Using the Blackboard timer as your time monitor was not correct, as the Blackboard timer was set to allow for late submissions. Please make sure that you have an independent indicator of the time for future examinations.

The time aspect of your grade was that students who submitted before the 6:20 time were given a bonus of 20 points. Students who submitted after 6:20 (or extension) but before 6:30 were not penalized. Students who submitted between 6:30 and 6:40 were penalized 1 point for each minute after 6:30. Students who submitted between 6:40 and 7:00 pm were penalized 10 points plus 2 points for each minute after 6:40. Student who submitted after 7:00 pm were penalized 50 points.

General grading of examination 1

1. Take off 2 points for minor computational errors and 5 points for more serious errors. An answer that has a substantive error in a calculation should have a 20-point deduction. For example, an incorrect number of degrees of freedom.
2. A decision to accept or reject a null hypothesis that is inconsistent with the calculations of the problem should have a 35-point deduction. The objective of the course is to train each student to make consistent decisions. Computations that are incorrect should be penalized as discussed in point 2.

Grading of specific problems

1. Bayes' Theorem. The partial credit plateau is the answer to part a using the law of complete probability. The only issues are usually minor computational errors.
2. Paired t-test: -50 for not using a paired t-test (for example, a two independent sample test or normal test); -20 incorrect degrees of freedom; -35 inconsistent decision about accepting or rejecting a null hypothesis.
3. Two independent sample t-test: -40 using a normal (variance known) test; -20 incorrect degrees of freedom; -35 inconsistent decision about accepting or rejecting a null hypothesis. A correct pooled variance estimate should get 15 points.
4. Probability of a type II error: +10 for correct null distribution; +15 for correct alternative distribution. Some students may not get any further than this. Grade the calculations using the guidelines above.

5. Two independent sample size problem: -20 incorrect $|z_\alpha|$; -20 incorrect $|z_\beta|$; -20 incorrect $\sqrt{\sigma_{X0}^2 + \sigma_{B0}^2}$; -20 incorrect $\sqrt{\sigma_{X1}^2 + \sigma_{B1}^2}$; -30 forget to square answer.
6. Give 10 points for each correct and constructive step. Total value of the question is 60 points.

Class participation grade

The total amount of time (in hours) that you were logged in to the AMS315 Blackboard was the basis of your grade. You were ranked on this time—rank 1 for greatest time and rank n for least time. Your participation score was $60 \times \left(1 - \frac{rank-1}{n}\right)$, where *rank* is your rank and *n* is the number of student participating on Blackboard.