Math 205B
Winter 2019

UPDATED GENERAL INFORMATION — MARCH 27, 2019

Both the second assignment and the second examination have been placed in the mailboxes for students with mailboxes in Skye (Surge) 278. All other students are welcome to take their papers at some mutually arranged time; other options are also possible. These may be helpful in studying for September's 205 comprehensive examination (the sobriquet "Qual" is a little cringeworthy because the German noun "die Qual" translates to torture or torment).

Grades for the second assignment

The cutoff scores for the second take-home assignment are as follows:

A — 45
B — 30

Each of the three problems was worth 20 points.

Comments

There were no correct solutions for $3(b)$. Most papers tried to justify the conclusion by saying that Y has a point or 1-disk D as a strong deformation retract and claiming that $S^n - \mathsf{Y}$ is therefore a deformation retract of $S^n - D$, which has zero reduced homology. There is a weak result of this type which is a consequence of the Alexander Duality Theorem (we shall not go into detail here), but there is no result stating that if A and B are homotopy equivalent graphs then $S^n - A$ and $S^n - B$ have the same homotopy type when $n \geq 3$. If $n = 2$ one can prove such a result using the Schönflies Theorem (considerably beyond this course), but in higher dimensions there are wild arcs whose complements have highly nontrivial fundamental groups, and one can use these to construct examples of wild graphs Y in S^n whose complements are not contractible. Further information can be found in Rushing, *Topological Embeddings*.

Grades for the second examination

The cutoff scores for the second in-class examination are as follows:

A — 80
B — 55

The median score was 87.5.

Statement on final grade determination:

As noted previously, the course grade will be determined by a weighted average of the grades on the examinations, the quizzes and the homework. The cutoff points for A, B, C, D, F will be determined individually for each each of these constituents, and for grading purposes the raw numerical scores will be normalized as follows:

4.0 = perfect score, 3.0 = lowest A, 2.0 = lowest B, 1.0 = lowest C, 0.0 = lowest D, -1.0 = zero score. If the raw numerical score lies between two of these values, the normalized score will be determined by linear interpolation.

EXAMPLE. If the lowest A is 88, the lowest B is 72, and a student's raw numerical score is 76, then the raw score is 4 points above the lowest B, the difference between the lowest A and the lowest is 16, and therefore the grade is $\frac{4}{16} = \frac{1}{4}$ of the way from the lowest B to the lowest A; linear interpolation means that the normalized score on the examination is **2.25**.