

# MAT 531: Topology & Geometry, II Spring 2011

## Final Exam Information

The final exam will take place on Sunday, May 22, 1-3:30pm, in Math P-131. Please bring paper and pencils. The exam will be closed book/notes/etc.

Alexandra will hold office hours on Friday, May 20, 1-3pm, in Math 3-105, *instead of* Monday, May 16; you can also e-mail her questions. I will have office hours on Saturday, May 21, 4-6pm, in Math 3-111, *instead of* Wednesday, May 18. You can pick up your graded final exam on Monday, 5/23, 12-2pm.

The format of the exam will be similar to the 06 and 10 final exams. You will need to do five problems chosen from three parts of the exam. There will be a bonus problem as well. As on the 06 and 10 finals, scores on the remaining three problems will not count toward anything.

The final exam will cover the entire course, including *Lecture Notes*. You should be able to do all problems from the problem sets, the midterms (06, 10, and 11), the 06 and 10 finals, and *Lecture Notes*, as well as the relevant exercises from the textbook and the geometry/topology problems from past comps. You should be familiar with the tricks/techniques used in proving the main results in the book. Please review the solutions to the problem sets and to the exams as well as *Course Overview*.

You should have some understanding of sheaf theory and Hodge theory. You are not expected to be able to reproduce the technical aspects of Chapters 5 and 6. However, you should be familiar with the geometric applications, such as Mayer-Vietoris, relations between (co)homologies, relation between vector bundles and sheaf cohomology, Poincare duality, Kunneth formula.

If you are asked to prove anything, you should assume all the standard facts that are appropriate for the given question and state clearly what you are using. You can certainly use the statements of the main theorems (Inverse/Implicit FT, Frobenius, etc.), but should not simply quote the statement of an exercise, especially if it constitutes most of the problem. This applies to the comps as well.

*Good luck with all your finals and the comps!*