

There is no homework to hand in today, but let's clarify what you should expect, so that you can prepare for our last exam.

The exam will probably be like a regular exam plus a little extra. By “regular exam” I mean an exam, designed to take 70 minutes, on topics that haven't yet been tested. By “a little extra” I mean another one or two pages on older material. Do you need to know what a continuous function is? Yes. You will have 150 minutes (2.5 hours), but you might be able to finish much earlier than that. My goal is for time stress to not be a problem.

So, you are expected to know everything from Days 01–26 of the course.

On Day 27, we briefly outlined the second half of the classification of connected compact surfaces. The details of the proof are laid out in Section 77. You are expected to know the result but not its proof.

On Day 27, we started learning some concrete differential topology. We will continue it on Day 28. You are expected to know the sequence of linear transformations, how their images and kernels nest, and what information they give you about the topology of the manifold. You are not expected to memorize finicky stuff: the precise definitions of curl, the classic \vec{G} such that $\operatorname{div} \vec{G} = 0$ but \vec{G} isn't a curl, etc. You are expected to be able to compute basic stuff, such as $\operatorname{div} \operatorname{curl} \vec{F} = 0$ if I give you the definitions of div and curl.

On Day 28 we might also learn about the contraction mapping principle, if time permits. You will not be tested on it.

To the exam, you may bring a “crib sheet” — that is, a sheet of notes to help you remember key details. The rules are:

1. You must write/draw/type the sheet yourself. (The intent of this rule is for you to incur the educational value of making the sheet.)
2. The sheet is one standard sheet of paper: 8.5×11 , A4, or smaller. You may use both sides. It must be on paper, not an electronic device. (The intent of this rule is for you not to have a huge object, such as a book or poster.)
3. You cannot share sheets during the exam. (The intent of this rule is to prevent communication among students.)

Follow not just the rules but also their intents. When in doubt about whether something is allowed, ask me. :)