

You can choose the topic for your final project. I am happy to supply input to help you make a choice. In particular, I will include some suggestions below. I am asking that you both turn in a written report and also make an oral presentation. Both are due at 10:00 am on the last day of class (W4). I will give more information as we proceed. Enjoy!

Here are some ideas for projects. Let me know if you have others.

Applications:

Phenotype spaces: I have located a copy of “The Topology of the Possible” by Fontana which subsumes what is in our text.

Digital Image Processing: p. 348-56 of the text builds on what we did earlier. See Kha1-Kha3, or Kov in the references given in the text.

Physics: Begin with section 3.5 of the text

General Topology:

Metrizability: Begin with section 5.4 from the text. Then see me.

Set Theoretic Topology: I have several references.

Algebraic Topology:

Fundamental group and covering spaces: Begin with chapter 9 from the text. Then see me for additional references.

Homology theory: See me for a reference

Geometric Topology:

Embedding theory: Begin with Chapter 11 of the text. Then see me for references.

Dynamical systems and chaos: Begin with chapter 10.

Wild Cantor sets: I would begin with a web search on Antoine’s Necklace.

Knot theory: Begin with Chapter 12 from the text. Colin Adams has an excellent knot theory book.

Manifolds and Cell Complexes: Begin with Chapter 14 from the text. Then see me.