MA 331 HW 20

1. Thinking about your blog post

Take some time to think about what topic you would like to write your blog post on and talk to me about your ideas. Your essay should be aimed at an audience of beginning undergraduate math students (or people with less mathematical background.) It should include some kind of opening "hook" to draw people in and should convey interesting mathematical ideas of a topological nature in a non-technical or semi-technical way. The best blog posts are either tightly focussed on one particular point or are a broad overview with an emphasis on synthesizing several ideas. You shouldn't try to do both in a single essay. To read examples from a previous semester visit the blog:

http://web.colby.edu/thegeometricviewpoint/

Your essays will eventually be posted there as well.

Possible topics for an essay include:

(1) The Jordan Curve Theorem
(2) The Schönflies theorem in 2-dimensions (every simple closed curve in the plane bounds a topological disc to one side)
(3) The Alexander Horned Sphere (a counter-example to the natural generalization of the Schönflies theorem to 3-dimensions)
(4) Configuration Spaces
(5) Topology and GIS
(6) Topology and Data Analysis
(7) The Extreme Value Theorem
(8) The Intermediate Value Theorem
(9) Sperner's Lemma
(10) The Brouwer Fixed Point Theorem
(11) Invariance of Dimension
(12) The classification of 1-dimensional manifolds
(13) The classification of compact 2-dimensional manifolds
(14) An examination of why the definition of manifold is what it is.
(15) Pachner Moves on Triangulations
(16) The Poincaré Conjecture
(17) Algorithms for working with triangulated surfaces
(18) Ways to put topologies on groups
(19) The real projective plane and other projective planes
(20) Fibered knots (knots whose complements are obtained by a certain kind of quotient of surfaces times an interval)
(21) Make your own suggestion or ask for others!