MATH 451 – Introduction to Topology
Dr. Boersma
Fall 2009

Goals: This course will provide you with a broad introduction to *topology*, one of the "younger fields of mathematics". We will study those characteristics which remain invariant under continuous transformations. We will begin by studying continuous functions, homeomorphisms, and isotopies. We will then turn our attention to knots and links as well as the Alexander and Jones Polynomial. In addition, this course will emphasize *active learning* techniques. Students will read the text, explore the plethora of examples, and construct proofs using the notation and terminology of the discipline.

Office: Bouillon 108D, phone: 963-1395, email boersmas@cwu.edu. Office hours will be announced in class shortly. You may of course drop by anytime. If I'm not busy I'll be glad to talk with you.

Required
Text *Topology NOW!*, by Robert Messer & Philip Straffin. We will cover chapters 1-3.

Your Grade: Your final grade in this course will depend on one three exams (45%), collected homework (30%), homework presentations (10%), reading assignments (10%), and attendance (5%).

Exams The exams are scheduled for October 14, November 6, and December 10 (noon). Note that the third exam is held during our scheduled final exam period. Make-up exams will only be given in extreme cases. If you anticipate a conflict, please see me at least one week **before** the date of the exam.

Collected
Homework I will periodically collect written assignments to grade. When you hand in a homework assignment, I will be looking for neat, clear, and concise solutions containing complete and eloquent explanations. You should think of these turn-in homework sets as an opportunity for you to really show me your understanding of the material. Homework turned in late **WILL NOT** receive full credit and may not be graded at all. See the separate handout for a detailed list of expectations on written work.

Presented
Homework Some homework problems from each section will be set aside for individuals (or teams of two) to present to the class. For each successful individual presentation you will receive one **presentation credit**. Each member of a successful team presentation will receive one-half of a **presentation credit**.

Everyone is expected to receive three presentation credits during the quarter. Individuals or teams may claim problems to present on a first-come first-served basis. Once you believe you are ready to present a solution, either hand in a written solution to me or stop by my office to walk me through your solution. Once I have approved your solution for presentation, we will agree on a date and time to present the solution to the class.

Other

Homework   Aside from graded and presented problems, many other homework problems will be assigned. Working on these problems will give you a chance to work with the new definitions, concepts, and theorems which will form the basis for the content in this course. If you find yourself having difficulty with any of these problems, you should let me know so we can discuss them either in class or in my office.

Attendance   This is a 400-level mathematics course. Thus, I will expect every student to make an effort to be in class (on time!) every day. Your attendance grade will be lowered for each absence starting with the third. Please let me know if a health problem forces you to miss too many classes.