MATH 2001: Introduction to Discrete Mathematics (Spring 2018)
MWF 1:00-1:50 pm, ECCR 108

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Office hours: Monday 4-5 pm, Tuesday 3-4 pm, Wednesday 2-3 pm
Course website: `http://math.colorado.edu/~mayr/teaching.html`

Course description. Do you know a formula for adding up the first n positive integers, $1 + 2 + \cdots + n$? How can you find such a formula and convince yourself and others that it is actually correct?

The goal of this course is to enable you to read and write mathematical texts and to prove mathematical statements on your own. We will learn and practice these skills in the area of discrete mathematics (as opposed to "continuous" mathematics like calculus or analysis). In particular we will cover the following topics:

- sets - the basic building blocks to formulate Math
- logic - how to reason about facts
- combinatorics - counting
- methods of proof - how to organize arguments
- relations and functions - interactions between elements of sets

Assignments. Every Friday I will post homework problems on the website. Please hand in solutions at the beginning of class on the following Friday or send a pdf at least 30 minutes before class. Please use "Math 2001 - assignment n" as title for the mail for the n-th assignment (otherwise I will not find and grade it). Additionally there will be 4-5 writing projects during the semester. I will ask you to give short presentations in class.

Since communicating about mathematics is one goal of this course, you are allowed and encouraged to discuss your assignments with others. However I ask you to follow this approach: First try to solve your problem on your own. If you get seriously stuck, discuss it with your colleagues, me, etc. In any case write up the solutions that you hand in alone.

There is a short quiz every Wednesday, 2 midterm exams in class on Wednesday, February 21, and on Wednesday, April 4, as well as a final exam on May TBA.

Cheating on your assignments may result in a grade of 0. Please find the honor code of CU Boulder here `http://honorcode.colorado.edu/`

Grading. Your final grade will be determined by the scores of your homework, quizzes, midterms, and final exam. To combine these items the following weights will be used:

Homework: 25%
Writing projects: 15 %
Quizzes: 15 %
Midterms: 25%
Final exam: 20%

Late homework will not be accepted. However the 2 lowest homework scores and the 2 lowest quiz scores will not count towards the final grade.

Texts. Richard Hammack. The Book of Proof. Creative Commons, 2nd edition, 2013. Available for free: `http://www.people.vcu.edu/~rhammack/BookOfProof/`

University regulations. I am happy to accommodate disabilities or religious observances, or a request that I address you with a different name or pronoun than my roster indicates. Please contact me as soon as possible.

For details on accomodations please see `http://disabilityservices.colorado.edu/`
For details on university policies please see `http://www.colorado.edu/policies`