Math 395/CS 395 **Spring 2022**

Course:	**Analysis of Algorithms**
Professor:	Lyudmyla Barannyk Department of Mathematics and Statistical Science University of Idaho
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Office Hours:	F 11 am - 12 pm noon and/or by appointment via Zoom
Suggested books:	*Introduction to Algorithms* by T.H. Cormen, C.E. Leiserson, R.L. Rivest, C. Stein, The MIT Press
	Introduction to the Design and Analysis of Algorithms by A. Levitin, Addison Wesley
Lectures:	Tu, Th 1:00 pm - 1:40 pm, 1:50 pm - 2:30 pm via Zoom

Course website: http://www.webpages.uidaho.edu/∼barannyk/Teaching/Math395.html

Content: We cover standard measures of efficiency for algorithms (mostly worst-case and average-case analysis), methods of evaluating an algorithm's performance (asymptotic analysis, big-O, and big-Theta notation), and standard examples and tools in the design of good algorithms (brute force, recursive, divide-and-conquer, decrease-and-conquer, transform-and-conquer, dynamic, greedy, and branch-and-bound techniques). We'll also see lower bound arguments (proofs that a problem cannot have an algorithm more efficient than a given lower bound), reductions of one problem to another, and a brief introduction to complexity theory and NP-completeness.

Unclaimed Assignment Policy: Assignments not retrieved on the day of return can be picked up during office hours.

Exams: Exam 1, Wednesday, February 15
Exam 2, Wednesday, March 28
Final Exam, Monday, May 7, 12:30 - 2:30 pm

Calculator Policy: Calculators are not to be used on exams.

Quizzes: No Quizzes!

Homework: Homework will be assigned on Wednesday and due the following Wednesday at the beginning of class. Late homework will not be in general excepted. Homework will either be collected weekly or biweekly depending on the rate we cover the material. A random selection of problems will be graded.

Course Grade:

Midterm Exam:	30%
Final Exam:	40%
Homework:	30%