

MATH CLASSES

- **MATH 4901**, Reading Course Spring 2018/*In progress*
Textbook: *A Classical Introduction to Modern Number Theory* by Ireland and Rosen.
Topics including quadratic reciprocity, finite fields, Gauss and Jacobi sums, with a final presentation on Hasse-Minkowski theorem.
Instructor: Ravi Ramakrishna.
- **MATH 7130**, Functional Analysis Spring 2018/*In progress*
Textbook: *IV. Functional Analysis* by Elias M. Stein and Rami Shakarchi,
and *Essential Results of Functional Analysis* by Robert Zimmer.
Instructor: Camil Muscalu.
- **MATH 6110**, Real Analysis Fall 2017/*Grade:A-*
Textbook: *Princeton Lectures in Analysis, III. Real Analysis* and *IV. Functional Analysis*, by Elias M. Stein and Rami Shakarchi.
Instructor: Nataliya Goncharuk.
- **MATH 6310**, Algebra I Fall 2017/*Grade:A*
Textbook: *Algebra: A Graduate Course* by I. Martin Isaacs.
Instructor: Nicholas Templier.
- **MATH 2240**, Theoretical Linear Algebra and Calculus Spring 2017/*Grade:A-*
Textbook: *Vector Calculus, Linear Algebra, and Differential Forms, A Unified Approach* by John Hubbard.
Instructor: Jason Manning.
- **MATH 6320**, Algebra II Spring 2017/*Grade:A-*
Textbook: *Abstract Algebra* by Dummit and Foote.
Instructor: Allen Knutson.
- **MATH 6370**, Algebraic Number Theory Spring 2017/*Grade:A-*
Textbook: *A Course in Arithmetic* by Jean-Pierre Serre.
Instructor: Shankar Sen.
- **MATH 2230**, Theoretical Linear Algebra and Calculus Fall 2016/*Grade:A+*
Textbook: *Vector Calculus, Linear Algebra, and Differential Forms, A Unified Approach* by John Hubbard.
Instructor: Ravi Ramakrishna.

COMPUTER SCIENCE CLASSES

- **CS 4820**, Introduction to the Analysis of Algorithms Spring 2018/ *In progress*
Topics: Algorithm design techniques including greedy algorithms, divide and conquer, dynamic programming, and network flow; undecidability, NP-completeness, approximation algorithms, and local search heuristics.
- **CS 2800**, Discrete Structures Spring 2017/ *Grade:A*
Topics including combinatorics, finite automata and metalogic.
- **CS 2110**, Object-Oriented Programming and Data Structures Fall 2016/ *Grade:A*
An intermediate-level programming class in Java.

Programming Experience

- **Java** - A simulation for Polynesian migration modeled by random walks (Spring 2016), a few short programs for finding patterns of sums of squares (February-June 2016). Also started working on problems in Project Euler (solved 14/626).
- **Python** - A short program that gives the threshold number of people required for getting a k -people birthday clash with probability p (Fall 2015).
- **C++** - Short programs for numerical experiments, e.g. ending digits for iterated powers in base 10, periodicity of certain sequences.
- **JavaScript** - Twelve online calculators for curving scores in different ways (June 2015).