

Course Information
Math 232A: Algebraic Number Theory
Fall 2021

About the class. The goal for fall quarter is to study rings of algebraic integers in number fields, using the first five chapters of Marcus's *Number Fields*. Chapter 5 includes two famous results from algebraic number theory: (1) finiteness of the class group and (2) Dirichlet's unit theorem. Extra topics (or more advanced presentations of the same topics) will be included as time permits. (I do not plan to cover the later chapters of Marcus. In winter quarter, there will most likely not be an assigned textbook.) Spring quarter will be taught by Alexandra Florea.

Class meetings. MWF 9:00-9:50am in RH 306.

Instructor. Christopher Davis, daviscj@uci.edu, Rowland Hall 440J.

Textbook. Marcus, *Number Fields*, 2nd edition. Available for free online from on campus (or VPN) using SpringerLink. The 1st edition should also be fine, I believe it is identical, but the formatting is not as nice. There are too many nice references for this material to list. Some of them will be linked from our Canvas homepage.

Class Website. <https://canvas.eee.uci.edu/courses/39212>

Homework. There will be homework due most weeks. See the course website for details. Your lowest homework score will be dropped.

Quizzes. There will be two in-class "quizzes", during class on Fridays in Week 3 and in Week 6. The quizzes are not meant to be stressful, but as a chance for me to gauge where we are as a class. (Homework is not always the best tool for that.)

Grade breakdown. The final grade will be calculated using 70% Homework and 30% Quizzes.

Ed Discussion. Ed Discussion is a replacement for Piazza. Please use it for questions about course material and about course logistics.

Academic integrity. Because this is an advanced graduate course, I hope there should be no need to mention academic integrity. Most of the homework this quarter will be assigned from the course textbook. Do not copy any answers from online sources, and please cite any sources you use (whether online sources or collaboration with another student). You can find more information about the UCI academic integrity policy here: <https://aisc.uci.edu/>

Your e-mail address. Announcements to the class will be sent via e-mail to your official UCI e-mail address. It is your responsibility to check this e-mail address regularly.