



COURSE SYLLABUS, MATH 831, ABSTRACT ALGEBRA II, SPRING 2025

INSTRUCTOR INFORMATION

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<u>Office</u>	527 Snow Hall
<u>Office Hours</u>	Consult the course website.

COURSE BASICS

<u>Time and location</u>	MW 11:00 - 12:15 PM. Physical location TBD
<u>Description</u>	This course covers foundational topics in commutative algebra not covered in MATH 830. Potential topics include integral extensions, lying over and going-up; normal rings and going-down; Noether normalization, and dimension theory for finitely generated algebras over a field; chain conditions, and Noetherian and Artinian rings and modules; local rings and Nakayama's Lemma; rings of formal power series; completion and flatness; primary decomposition and associated primes; affine algebraic varieties and Hilbert's Nullstellensatz; the prime spectrum of a ring and the Zariski topology.
<u>Prerequisites</u>	MATH 830.
<u>Format</u>	This is an online course.
<u>Credits</u>	This is a 3-credit course. According to KU policy , and the federal description of a credit hour, students are expected to spend at least 4 hours a week on this course outside of class.

ELECTRONIC COMMUNICATION

- (1) All electronic communications must occur through official KU email accounts.
- (2) In particular, Canvas messages should not be used to communicate electronically.
- (3) The subject line of every message should be precise, and must start with the string "[math-831]".
- (4) Understand that it is hard to discuss math via email. If you have a math question, you must clearly describe your thought process, and where you are running into trouble.

RESOURCES AND MATERIALS

<u>Course website</u>	https://hernandez.ku.edu/831.html
<u>Textbook</u>	There is no official textbook.

ATTENDANCE AND PARTICIPATION

Students are expected to attend, and actively participate in, all lectures. For information on excused absences, see the [KU Excused Absences Policy](#). Student responsibilities in this context are described in subsection 2.2.4 of that policy.

REQUIREMENTS

<u>Worksheets</u>	Instead of traditional lectures, class time will be spend working in teams on worksheets where students will build theory from the ground up. Active participation and engagement is required.
<u>Homework</u>	Any parts of a worksheet that are not completed during the class period are assigned as homework. Each group must submit one set of solutions, typeset using LaTeX. Each worksheet is due one week after starting it in class. More instructions for submitting worksheets will be communicated soon.
<u>Quizzes</u>	In-class quizzes will be given periodically throughout the semester.
<u>Late work</u>	Outside of situations covered by the KU Excused Absences Policy , late work is not accepted.

LEARNING OUTCOMES

We will cover the basics of commutative algebra.

EVALUATION CRITERIA AND GRADING SCALE

Course grades will be based on attendance, participation and level of engagement, quality of submitted worksheets, and quizzes.

A course evaluation will be available to students at the end of the semester.

ACADEMIC INTEGRITY AND PROFESSIONAL CONDUCT

We follow the [KU Academic Misconduct Policy](#). In this context, students are held to the highest standard, and any failure to meet this standard will trigger severe consequences.

CLASSROOM BEHAVIORAL EXPECTATIONS

- (1) The use of phones, computers, or any other device that may cause a distraction, is forbidden during lecture. Text messaging and internet browsing will not be tolerated.
- (2) Food and drink in disposable containers are forbidden from lecture.

COMMERCIAL NOTE-TAKING

Commercial note-taking is not permitted in this course. Course materials, including notes, may not be sold to any person or entity. Any student engaged in, or contributing to, the commercial exchange of notes or course materials will be subject to discipline, including academic misconduct charges, in accordance with [KU policy](#). Note: note-taking provided by a student volunteer for a student with a disability, as a reasonable accommodation under the ADA, is not the same as commercial note-taking and is not covered under this policy.

ADDITIONAL RESOURCES AND POLICY INFORMATION

Student Resources

- [University Academic Support Centers!](#)
- [Counseling and Educational Support Services](#)
- [The KU Writing Center](#)
- [Religious Observances](#)

University Policies

- [Academic Misconduct](#)
- [Change of Grade](#)
- [Diversity and Inclusion](#)
- [Mandatory Reporting \(Title IX/Civil Rights\)](#)
- [Nondiscrimination, Equal Opportunity, and Affirmative Action](#)
- [Sexual Harassment](#)
- [Student Rights and Responsibilities](#)
- [Racial and Ethnic Harassment Policy](#)
- [Commitment to Integrity and Ethical Conduct](#)
- [KBOR Statement on Free Expression](#)
- [Weapons, Including Firearms!](#)

The [KU Student Affairs Student Resources website](#) provides links to KU Policies and Resources pertaining to academic misconduct, grading policies, harassment and discrimination, diversity and inclusion, mandatory reporting, equal opportunity and affirmative action, and student rights and responsibilities. Please visit the site to familiarize yourself with these policies and resources. Contact your instructor, or Student Affairs directly, if you have questions or concerns about any of these policies and resources.

CHANGES TO THIS SYLLABUS

The course policies described herein are subject to change. Any such changes will be made at the discretion of the instructor, and informed by the best interests of the students. These will be announced during class, and also electronically, via email.