

MA 765: Introduction to Curves, Fall 2026
Instructor: Dave Jensen

General Information

Instructor: Dave Jensen

Course Webpage: <http://www.ms.uky.edu/~dhje223/teaching.html>

Email: dave.h.jensen@gmail.com

Class Time/Location: FB 213, MWF 9:00-9:50 AM

Office Location/Hours: TBA

Course Description

This course will serve as a gentle introduction to algebraic geometry, with particular emphasis on curves. While we will assume familiarity with some basic ring theory, we will attempt to include as many students as possible, sticking to a classical perspective throughout and devoting a significant portion of class time to illustrative examples.

An algebraic curve is a 1-dimensional solution set to a system of polynomial equations in projective space. The geometric properties of the curve are intimately related to the algebraic properties of the defining equations, and it is this correspondence that lies at the foundation of algebraic geometry. The first part of the course will be devoted to exploring this algebro-geometric correspondence more closely. We will then turn to the question of maps from algebraic curves to other spaces. Given an algebraic curve, it is natural to ask what sorts of maps it admits to various projective spaces. How many polynomials does it take to determine the curve, and of what degree? What sort of geometric properties does a typical curve exhibit, and what can we infer from atypical behavior?

Assessment and Grading

Grades are based entirely on attendance and participation.

Course Expectations and Classroom/Learning Accommodations

All students are expected to follow the academic integrity standards of the university. Turn off all cell phones, pagers, etc. prior to entering the classroom. ***You are not to use your cell phones, pagers, or other electronic communication devices during class.*** An attitude of respect for and civility towards other students in the class and the instructor is expected at all times.

Any student with a disability who is taking this course and needs classroom or exam accommodations should contact the Disability Resource Center. This should be done as early as possible, to ensure adequate time for making accommodations.

Plagiarism

Part II of Student Rights and Responsibilities states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result

of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgement of the fact, the students are guilty of plagiarism.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she employed them. If the words of someone or something else are used, the student must put quotation marks around the passage in question and add appropriate indication of its origin. Plagiarism also includes making simple changes while leaving the organization, content and phraseology intact.

Student Support

The University of Kentucky has resources to enhance your well-being and mental health. Visit <https://studentsuccess.uky.edu/well-being> to see a list of services. Most are covered by student fees though you should consult with each website. These services may include:

- (TRACS) Triage, Referral, Assistance and Crisis Support to talk to a clinician for mental health support and referral. For further information, visit <https://studentsuccess.uky.edu/tracs>
- The Center for Student Support and Intervention (CSI) for someone to guide you through campus resources and/or if you need an explanation for an extended absence. For further information, please visit the site <https://studentsuccess.uky.edu/center-support-and-intervention>
- University Health Services (UHS) for managing primary physical care and other medical issues. See their website to determine if UHS is best for your needs and schedule appointments. For further information, please visit the site <https://ukhealthcare.uky.edu/university-health-service>
- University Behavioral Health (UBH) for managing psychiatric conditions, diagnostic testing, and medication management. For further information, visit the site [UHS Mental Health — UK Healthcare](#).
- The Disability Resource Center (DRC) for accommodation requests, based on diagnosed disabilities. See <https://studentsuccess.uky.edu/disability-resource-center>
- The Collegiate Recovery Program, for people in or exploring recovery from addiction. Please see:
<https://studentsuccess.uky.edu/power/services/collegiate-recovery-program>

Please consider opportunities to use these services that do not conflict with your course attendance. If there are extenuating circumstances that you would like to discuss, please contact me by e-mail.

For further information, please see:

- UK [Academic Policy Statements](#)
- UK [Mental Health Resources](#)
- UK [Academic Support](#)
- UK [Academic Ombud](#)

Classroom Emergency Preparedness and Response Information

Please go to [here](#) and look under “Classroom Emergency Preparedness and Response Information” for instructions and further information.