Topics in Commutative Algebra-Algebraic Geometry

MATH 724-1
MTWThF 1:30-3:00 PM
Minard Hall 346
3 credits, Summer 2008

INSTRUCTOR: Sean Sather-Wagstaff
OFFICE: Minard Hall 310D
E-MAIL: `Sean.Sather-Wagstaff@ndsu.edu`
PHONE: 231-8105
OFFICE HOURS: MTWThF 3:00-4:00 PM, and by appointment

PREREQUISITE: MATH 721

USEFUL WEBPAGES:
Course webpage: `http://math.ndsu.nodak.edu/faculty/ssatherw/su08/`
Instructor webpage: `http://math.ndsu.nodak.edu/faculty/ssatherw/`
Math department webpage: `http://math.ndsu.nodak.edu/`
NDSU webpage: `http://www.ndsu.edu`
NDSU blackboard site: `https://bb.ndsu.nodak.edu/`
NDSU webpage on academic conduct: `http://www.ndsu.nodak.edu/policy/335.htm`

REQUIRED TEXT: none. Course notes are available from the course website.

COURSE DESCRIPTION: Graduate level survey of algebraic geometry, focusing on affine varieties and projective varieties. MATH 724 meets for 450 minutes of lecture each week.

COURSE GRADES: Student grades are based on homework assignments, attendance and participation, and in-class presentations. Weights are summarized in the following table along with grade ranges.

Attendance and Participation	10%	A	85–100%
Presentations	40%	B	70–84.9%
Homework	40%	C	55–69.9%
Participation in Peer Evaluation	10%	D	40–54.9%
		F	0–39.9%

PRESENTATIONS: Each student will be responsible for presenting one chapter of material from the course notes, starting with Chapter 3. Presentations will be evaluated by the instructor and by the registered students. Evaluation criteria will include clarity and thoroughness of explanation and understanding of the material.

HOMEWORK: I will assign homework at the end of each chapter of material. Solutions will be due seven days after the end of the corresponding chapter, at 5:00 PM. Deadlines will be listed on the course webpage. Each section of homework will be worth the same amount. The student in charge of presenting the material for Chapter n will not be required to submit the assignment for Chapter $n-1$. Late homework will only be accepted under extreme circumstances.

Students are encouraged to work on assignments in small groups, but each member of the class is required to turn in a neatly written, organized set of solutions. Students will receive no credit for solutions with no work or justification. I reserve the right to deduct points for messy papers. You may even consider using LaTeX to typeset your solutions.

TENTATIVE SCHEDULE: I reserve the right to make reasonable changes to the schedule.

Class begins	T 10 Jun
No Class	M 30 Jun to F 11 Jul
No Class	W 30 Jul to F 01 Aug
Class ends	F 01 Aug

ANNOUNCEMENTS: Periodically, I will send course announcements to your ndsu.edu email account. It is your responsibility to check this email account regularly.

INSTRUCTOR FEEDBACK: At the course webpage, there is a link to an anonymous evaluation form where students can submit comments or suggestions for me at any time during the semester.

ADA STATEMENT The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning and psychiatric disabilities in order to ensure their equal access to course content. If you have a documented disability and require accommodations, please let your instructor know as soon as possible. For more information, please contact Disability Services at 231-7671 or go to `http://www.ndsu.edu/counseling/disability.shtml`.

ACADEMIC HONESTY All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct. Violations of this policy in this course will result in a 0 for the quiz or exam on which academic misconduct occurred. You can read the Senate Policy at `http://www.ndsu.nodak.edu/policy/335.htm`.

TENTATIVE COURSE OUTLINE:

1. Preliminaries
2. Algebraic Sets
3. Affine Algebraic Varieties
4. Algebraic Varieties
5. Local Study
6. Projective Varieties
7. Complete Varieties
8. Finite Maps
9. Dimension Theory