

MATH 8253: ALGEBRAIC GEOMETRY
HOMEWORK 1
DUE WEDNESDAY, SEPTEMBER 21, 2:17 P.M.

INSTRUCTOR: SASHA VORONOV

1. Read Gathmann's (see the link on the class homepage) *Introduction* and *Chapter 1: Affine Varieties*. Most of it should be repetition of the material covered in class during the first week. However, the last part, starting from 1.16, must be somewhat new. I have touched upon it during the last minutes of the Friday class, when introducing the Zariski topology. Do the exercises, 1.19–1.23.
2. Study *Chapter 2: The Zariski Topology* on your own. Do Exercises 2.21–2.22, 2.34, 2.36, 2.40.
3. I suggest you form study groups, work on the problems together in your study group, but write solutions on your own. See the link on forming a study group in the syllabus.
4. Do not hesitate to send me an email at voronov@umn.edu, should you have a question or need a hint, — I will be checking email regularly while in Prague.
5. Submit the homework by the start of our Wednesday, September 21, class meeting, i.e., by 2:17 p.m. You may submit it electronically or bring a printout to class. Electronic submission to Gradescope at <https://www.gradescope.com/courses/445177> is encouraged. If you do not have a Gradescope account, you may sign up for one using your umn.edu address or access it through Canvas.