

**MATH 8254: ALGEBRAIC GEOMETRY II**  
**HOMEWORK 2**  
**READING PART ADJUSTED 02/08/23**  
**DUE WEDNESDAY, FEBRUARY 15, 11:59 P.M.**

INSTRUCTOR: SASHA VORONOV

Review your course notes and read Gathmann's *Chapter 14: Quasi-coherent Sheaves* from 14.13 through the end, and *Chapter 15: Differentials*. Do **Exercises** 13.24 and 14.11.

Read [Hartshorne]: The pushforward (direct image) and pullback (inverse image) in the beginning of Section II.5, Do **Exercises** II.1.18 and II.5.1 (d).

Read [Vakil]: Sections 22.1-22.2.8 and 22.2.17-22.2.19. Do **Exercises** 22.2.K and 22.2.L.

Submit the homework by the end of the day, 11:59 p.m., Wednesday, February 15. Please submit it electronically to Gradescope at <https://www.gradescope.com/courses/500650>, which you can access through Canvas.