

## MATH 8315: SHEAVES AND COHOMOLOGY, SPRING 2016

INSTRUCTOR: VALERY ALEXEEV

The first half of the course will be devoted to the standard theory of sheaves and their cohomology, and more generally homology and cohomology in an arbitrary abelian category with enough projectives, resp. injectives. Instructor notes will be provided. The material covered will be a subset of Hartshorne “Algebraic geometry” Chapters 2 and 3, Godement’s “Topologie algébrique et théorie des faisceaux”, and the Tohoku paper of Grothendieck.

The second half of the course will be devoted to derived categories. Gelfand-Manin’s book “Methods of homological algebra” will be the main text used for this part.