Algebraic Geometry
Notes on a Course

Michael Artin, Massachusetts Institute of Technology, Cambridge, MA

This book is an introduction to the geometry of complex algebraic varieties. It is intended for students who have learned algebra, analysis, and topology, as taught in standard undergraduate courses. So it is a suitable text for a beginning graduate course or an advanced undergraduate course.

The book begins with a study of plane algebraic curves, then introduces affine and projective varieties, going on to dimension and constructibility. \( \mathcal{O} \)-modules (quasicoherent sheaves) are defined without reference to sheaf theory, and their cohomology is defined axiomatically. The Riemann–Roch Theorem for curves is proved using projection to the projective line.

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