Generally speaking, algebraic geometry deals with geometric objects defined by polynomial equations. We will cover topics 1-3 below, and maybe one other topic, depending on the level of the students.

**Topics**

1. Topics from commutative algebra.

2. Algebraic varieties over an algebraically closed field: definitions and main properties.

3. Curves and their function fields.

4. Intersection Theory in the projective plane.

5. Vector bundles and coherent sheaves.

6. Picard group and projective embeddings.

7. Schemes: definitions, examples and basic properties.