MATH-328 **Algebraic geometry I - Curves**

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Cursus	Sem.	Type
Mathematics	BA6	Opt.

Language of teaching	English
Credits	5
Session	Summer
Semester	Spring
Exam	Oral
Workload	150h
Weeks	14
Hours	**4 weekly**
Courses	2 weekly
Exercises	2 weekly
Number of positions	

Summary

Algebraic geometry is the common language for many branches of modern research in mathematics. This course gives an introduction to this field by studying algebraic curves and their intersection theory.

Content

- Affine algebraic varieties
- Plane curves
- Intersection numbers
- Projective varieties
- Bézout's theorem
- Elliptic curves

Learning Prerequisites

Required courses

- Algebra IV - Rings and modules

Recommended courses

Differential geometry II - Smooth manifolds

Learning Outcomes

By the end of the course, the student must be able to:

- Apply basic concepts of algebraic geometry to the case of curves.

Teaching methods

ex chatedra course with exercise session

Assessment methods

Oral Exam

Resources

Moodle Link

- https://go.epfl.ch/MATH-328