

ALGEBRAIC GEOMETRY 2022–2023

	DAY	TIME	WHERE	TYPE	TOPICS
LECTURE 1	11 October 2022	16:00 - 18:00	Room 134 (SISSA)	Theory	Presheaves, sheaves, morphisms, constant presheaves, sheaf condition via equalisers.
LECTURE 2	13 October 2022	16:00 - 18:00	Room 134 (SISSA)	Theory	Stalks, compatible germs. Surjectivity of maps of sheaves. Characterisation of isomorphisms via stalks (proof). Existence of sheafification (proof).
LECTURE 3	18 October 2022	9:00 - 11:00	Room 136 (SISSA)	Theory	Skyscrapers. Exact sequences of sheaves. Defining sheaves on basic open sets. Direct image sheaf. Supports of sheaves and sections.
LECTURE 4	18 October 2022	16:00 - 18:00	Room 128 (SISSA)	Theory	Inverse image sheaf and the adjunction with direct image. Locally ringed spaces, their morphisms. Closed immersions = ideal sheaves.
LECTURE 5	20 October 2022	16:00 - 18:00	Room 137 (SISSA)	Theory	Spectrum of a ring, Zariski topology. Closed points. First examples of $\mathrm{Spec}(A)$ .
LECTURE 6	25 October 2022	9:00 - 11:00	Room 136 (SISSA)	Theory	Localisation of a module. Structure sheaf of $\mathrm{Spec}(A)$ . Definition of affine schemes. Schemes. Quasicompact, connected, irreducible schemes.
LECTURE 7	25 October 2022	16:00 - 18:00	Room 005 (SISSA)	<a href="#">Exercises</a>	
LECTURE 8	27 October 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 9	3 November 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 10	8 November 2022	9:00 - 11:00	Room 136 (SISSA)	Theory	
LECTURE 11	8 November 2022	16:00 - 18:00	Room 005 (SISSA)	<a href="#">Exercises</a>	
LECTURE 12	10 November 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 13	15 November 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 14	22 November 2022	16:00 - 18:00	Room 134 (SISSA)	Theory	
LECTURE 15	24 November 2022	16:00 - 18:00	Room 134 (SISSA)	<a href="#">Exercises</a>	
LECTURE 16	29 November 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 17	1 December 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 18	6 December 2022	16:00 - 18:00	Room 134 (SISSA)	Theory	
LECTURE 19	13 December 2022	16:00 - 18:00	Room 005 (SISSA)	<a href="#">Exercises</a>	
LECTURE 20	15 December 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 21	20 December 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 22	22 December 2022	16:00 - 18:00	Room 005 (SISSA)	Theory	
LECTURE 23	10 January 2023	16:00 - 18:00	Room 005 (SISSA)	<a href="#">Exercises</a>	
LECTURE 24	12 January 2023	16:00 - 18:00	Room 005 (SISSA)	<a href="#">Exercises</a>	
LECTURE 25 (PHD)			Room 005 (SISSA)	Theory	
LECTURE 26 (PHD)			Room 005 (SISSA)	Theory	
LECTURE 27 (PHD)			Room 005 (SISSA)	Theory	
LECTURE 28 (PHD)			Room 005 (SISSA)	Theory	
LECTURE 29 (PHD)			Room 005 (SISSA)	Theory	
LECTURE 30 (PHD)			Room 005 (SISSA)	Theory	