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SIMPLE GEOMETRIC CONSTRUCTIONS AND SPATIAL MODELS IN EFFECTIVE EDUCATION OF ENGINEERS AT THE FACULTY OF ENVIRONMENTAL ENGINEERING AND LAND SURVEYING, AGRICULTURAL UNIVERSITY OF CRACOW

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This contribution is a presentation of simple geometric constructions used during practical classes with the framework of subjects related to descriptive geometry and engineering drawing for the 1st year students five courses of study pursued at the Faculty of Environmental Engineering and Land Surveying, Agricultural University of Krakow. These constructions are used for solving problems with an aid of conventional drafting instruments, and demonstrate application of geometry in engineering drawing on the basis of simple, widely known spatial models, e.g. the Rubik's cube. Both assignments and some constructions have been developed by the author of this contribution in order to optimize the effectiveness of training despite reduced number of classroom hours.

Students receive the assignments, usually containing individual data in form of already started drawings, and complete them utilizing the knowledge they gained during lectures. Also the form of lectures was adjusted to the reduced number of classroom hours; the lectures are a "step by step" computer simulations of constructions. Moreover, students receive printed copies of consecutive drawings, usually one week in advance, to reduce the amount of notes they need to take during the lectures.