This thesis deals with phenomena of augmented reality in context of didactics. The thesis aims to define augmented reality in conceptual and content area and focuses on augmented reality in the structure of educational tools and identification of its functions and use from the didactical standpoint. The thesis characterizes augmented reality as a specific technological-perceptual concept and establishes a system of perceptual, technological and resulting aspects that reflect important parameters of augmented reality. The thesis also examines the didactic specifics of augmented reality, defines the main possible didactic intentions for its use and establishes a structure of augmented reality systems in terms of teaching forms. Thesis defines didactic qualities and specifics of augmented reality as a technical educational tool with the support of empirical research. The concept of the thesis represents a comprehensive study of augmented reality from different perspectives and standpoints related to education and it can be understood as a base for other more specific research projects related to the issue of the use of augmented reality in education.