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This session will report on a 3-year study of methods of teaching mathematics to future middle and high school teachers that focus on both mathematical knowledge development and the development of aspects of mathematics teacher practice. In this project, courses including Geometry, Mathematics Captstone, and History of Mathematics were co-taught by university mathematicians and mathematics educators. Perspectives from mathematics and from education were used to inform and enrich the courses. Although the focus of the courses was on the development of particular mathematics content, opportunities to make connection to students' future work as teachers were found throughout the courses. Teachers must select and create problems that assess particular ideas, analyze mathematical arguments, present and explain content, read mathematics, choose curricular materials, use various tools and technologies, and make sense of multiple ways of thinking about and solving problems. Examples of the integration of these aspects of teaching into university mathematics courses will be provided in this session. Presenters will also briefly describe ongoing research which examines the development and evolution of teaching collaborations across the mathematics and education communities. (Received September 21, 2010)