In this session, two university mathematicians will report on their experiences co-teaching mathematics courses, and methods of teaching courses, with mathematics teacher educators. Students in these courses were undergraduates pursuing degrees in mathematics with the intention of teaching middle or high school mathematics. The course co-taught were Geometry, Mathematics Capstone, and Methods of Teaching Mathematics. Co-teaching involved jointly planning all aspects of the courses, and sharing responsibility for teaching and grading. Significant challenges to co-teaching included increased time involved compared to teaching alone, differences in teacher practices across the two communities (mathematics and education), and the creation of classroom communities that integrated the perspectives of two instructors. Benefits to co-teaching included opportunities to reflect on teaching methods and develop new methods, the development of strategies for connecting mathematics and the teaching of mathematics in courses for future teachers, and the building of professional relationships and understandings across the communities of mathematics and education. (Received September 21, 2010)