In university mathematics departments across the United States, it is an exciting period of innovation and experimentation as mathematicians with interest in secondary education have created a wide array of courses designed specifically for mathematics majors studying to become teachers. The impetus for the increasing number of these connections courses may be a product of research more clearly articulating the need for such knowledge, e.g., pedagogical content knowledge (Shulman, 1986) and mathematical knowledge for teaching (Ball, Thames, & Phelps, 2008). Additionally, the increasing number of productive and sustained collaborations between mathematicians and mathematics educators has resulted in efforts from those in the mathematics community to improve K-12 mathematics education and the policy around mathematics and mathematics teacher education (e.g., MET-II report). This presentation discusses results of an informal survey of the landscape of connections courses and provides descriptions of two types, secondary mathematics from an advanced standpoint and tertiary mathematics with connections. The goal is to urge further development and analysis of connections courses to better understand what might be optimal for prospective teachers. (Received September 15, 2014)