Fundamental understanding of mathematics is essential for preparing mathematics teachers for the common core curriculum. 2009 PISA results showed that students from Shanghai, China, scored 600 on the mathematics scale, leading the world, while students in the United States scored 487, lower than the OECD average score of 496. Much of Shanghai’s success arises from the quality of its mathematics teachers. This presentation will introduce the mathematics teacher preparation program for Grades 1-9 at Shanghai Normal University (SHNU). SHNU is responsible for training 100 percent of pre-service elementary math teachers and 70 percent of pre-service middle school math teachers, as well as leading in-service math teachers in Shanghai. The content of mathematics courses for pre-service and in-service teachers will be reviewed. (Received September 22, 2011)