Mathematics content knowledge is necessary for succeeding in teaching high school mathematics but of course it is not sufficient. Most of the secondary teachers’ preparation programs require pre-service teachers to take many advanced mathematics courses such as real analysis and abstract Algebra; yet we see many pre-service teachers that don’t understand the high school mathematics as concepts rather than as just solving problems. In this talk, I will present a research study results about the mathematics content knowledge of pre-service secondary teachers. A different approach for the teachers’ preparation programs in mathematics education will be introduced based on the results of the study.  (Received September 22, 2011)