In Spring 2010, I was part of the instructional team for the first mathematics course in a program for teachers completing a masters degree for Mathematics Specialists. This course was primarily taught online, using the Wimba platform, with two weekend sessions, one to kick off the course and one to conclude the course. This course was not taught through a traditional lecture format. By integrating a writing tablet and encouraging discussion, participants were an integral part of the instruction process. This session will outline the experiences of the instructors in preparing for and teaching this course. Particular attention will be paid to the approaches we used to make the course an interactive, engaging experience for the participants. The assessment methods we used will also be outlined. This session will highlight the challenges and successes of offering an interactive mathematics course in an online environment as well what the instructors plan to do differently in the next course we teach online. (Received September 22, 2011)