We report on the deconstruction of a traditional Calculus lecture into three components that blend online and face-to-face instruction. Our “Inform, Confirm, Extend” (ICE) framework incorporates pre-class videos to deliver basic Information, assigns pre-class online prep problems to Confirm student (and instructor) understanding, and Extends student understanding with in-class peer instruction. We describe the challenges and lessons learned during the development and implementation phases of this work, as well as outline a controlled experiment to assess the project outcomes. In particular, we will describe obstacles in this process as well as beneficial institutional collaborations. Lastly we will discuss planned future steps to transfer this approach to other instructors and to evaluate the effectiveness of scaling this approach to larger numbers of students. (Received September 17, 2013)