

1116-G1-1191 **Daniel E. Otero*** (otero@xavier.edu), Department of Mathematics, Hinkle 104, Xavier University, Cincinnati, OH 45207-4441. *Greek Chords and Hindu Sines: teaching trigonometry with original sources.*

Standard approaches to introducing trigonometry to students typically treat the sine, cosine, and other trigonometric quantities as functions whose properties derive from the geometry of the unit circle. They also tend to expose the standard trigonometric identities as mystical algebraic results. These approaches often don't provide students easy points of reference for scaffolding their understanding of these mathematical objects and their relations with each other. As many readers will know, taking a historical approach to mathematics can often address some of these pedagogical challenges quite effectively. This talk will track the author's development of classroom modules designed to introduce trigonometry to students through original sources, specifically, the construction of two brief tables, one of chord lengths attributed to Hipparchus (2nd c., BCE), and another of sines due to Varāhamihira (6th c., CE). (Received September 17, 2015)