Abstract:
The main focus of this bachelor thesis are the beginnings of goniometry in ancient Greece, mainly in the book Almagest from Claudius Ptolemy. We describe a predecessor of modern goniometric function - the length of a chord in a circle and it's similarity to the modern goniometric function sine. In the first part we focus on computing the table of chords. In the thesis the process of computing the table of chords is unchanged from the original in Almagest, it is only translated into a modern mathematical language. We present description of the Heron's algorithm for computing square roots and discuss the accuracy of the table of chords. In the second part we show the usage of the table of chords in astronomical calculations. Our work is based on how Ptolemy viewed the solar system and the movements of heavenly bodies.

Keywords:
goniometry, Ptolemy, Almagest, chord, sine