CO 480 Week 1 Learning Goals

By the end of this week, students should be able to...

- Discuss the life of Alexander the Great including his conquests and his founding of Alexandria. Other pieces of information you should know include his father and tutor.
- Describe the Ptolemic era of Alexandria.
- Describe the Musaeum.
- Identify the nine muses.
- Discuss how Alexandria obtained new books.
- Discuss the Great Fire of Alexandria.
- Identify the four books of Diophantus.
- Be able to translate to and from Diophantus’ Greek to English given the Greek alphabet to number chart (Note this means you would be required to know by heart what \( M, \varsigma, \Delta^\Upsilon, \zeta^\Upsilon, \Delta^\Upsilon \Delta, \Delta K^\Upsilon, K^\Upsilon K \) mean).
- Solve problems from Diophantus’ Arithmetica. Solving here could mean in general or in the style of Diophantus.
- Identify local obstructions to solving problems in integer Diophantine Equations.
- Explain and utilize the rational point method discussed based on Book II Problem 8.
- Discuss some of Diophantus’ contributions from Arithmetica (for example, solving quadratic equations, theorems relating to the sums of squares, etc.)