Travis Lepley

EDTL 7100

10-1-10

Statement of Purpose

At Perry High School students following the college prep path in mathematics take courses in a specific sequence. Students take the following courses in the respective order: Algebra, Geometry, Algebra 2, Advanced Math, and Calculus. Advanced Math is a course designed for students that have successfully completed Algebra 2. The class is composed of juniors and seniors. There are times sophomores that have passed Algebra 2 successfully and are therefore eligible for the course. The juniors in the class will have the opportunity to move onto Calculus as seniors, and the seniors will be prepared for a general mathematics course in college. The course consists of concepts including algebra and elementary functions, trigonometry, analytic geometry, discrete mathematics, and calculus.

This course follows the development of cognitive processes orientation to curriculum. The content is extremely important, but it does not drive the course because these students have passed their Ohio Graduation Tests. The students are not just acquiring information. They are able to process the information effectively and utilize the skills they have acquired. (Chiarelott, 2006)

The advanced math course is divided into five units: 1. Relations, Functions, and Graphs, 2. Trigonometry, 3. Advanced Functions and Graphing, 4. Discrete Mathematics, 5. Calculus. This course focuses the majority of its study on the first three sections, and gives some insights to the other two. The focus of the curriculum map will be on the first unit, Relations, Functions, and Graphs. This unit will take the majority of the first semester to complete. The map will act as a guide for the pacing of lessons and topics. Many topics in the unit are review topics from Algebra 2, and topics that build on previous learned material. In the past, I did not give much attention to those topics because they were simply review. I have realized that I was coming back to those topics over and over again throughout the course, and the students were having difficulty with them. I decided to take a new approach and include all of the four subunits in this unit. By doing this I will not have to stop and review skills as I am working with students in the Trigonometry unit. Many of the students are also being introduced to graphing calculators in this course. Integrating graphing calculators into the class gives the students a new way to reach their solutions, and it adds another tool to their educational toolboxes.

In the first unit, Relations, Functions, and Graphs, functions will be written as equations or graphed to model real world situations. The unit begins as a good refresher of Algebra skills for the students at the beginning of the year. The foundation of good practices will be beneficial to all of the students as we move into other units throughout the year. Making the students aware of the graphing calculator and its operations will enable them to find solutions quickly in this course, and it may be useful to many of them in their physics and accounting courses. The students that sharpen their skills and become efficient with new ones in this unit will be greeted with great success in the course.

References

Chiarelott, Leigh. (2006). *Curriculum in context: designing curriculum and instruction for teaching and learning in curriculum*. Belmont, CA: Thomson Wadsworth.