

Math 2130 -- Mathematics for Early Childhood Teachers

Syllabus last revised:

Schedule: Fall, Spring, Summer, 3 hours

Major topics: Sets. Numeration systems and number sense. Development of the whole numbers. Meanings of the four basic operations. Notions of fractions and decimals. Two and three-dimensional geometry. Measurement. Patterns.

Prerequisite: satisfactory score on the Math 2130 placement test or grade of C or better in Math 90. Open only to education majors.

Required text: Bassarear, T. (2005) Mathematics for Elementary School Teachers, 3rd Edition. Houghton-Mifflin. (Chapters 1 – 5, 8 – 10)

Required materials: scientific calculator (or graphing calculator)

In Math 2130, we will explore the mathematics which you will need for Early Childhood Education. This course is not a summary or review of early childhood mathematics: instead this course explores the mathematics which people should know to be successful mathematics teachers of pre-kindergarten, kindergarten, and primary grades students. This will include the study of sets, numbers and their origins, arithmetic operations, fractions and decimals, geometric shapes and their properties, measurement, and symmetry. One of the goals of this course is to help students develop better number sense, estimation abilities, and geometric intuition. An important theme in Math 2130 is the search for and description of patterns as a problem-solving tool. Questions that we'll address in this course: When did our number system develop? What might our number system be if humans had seven fingers? What are you really doing when you "borrow" in subtraction? Why can't you divide by zero? How is geometry related to numbers? This course is required for Early Childhood Education majors and may also be taken by Intervention Specialist majors and Deaf Education majors.

Research shows that students in mathematics classrooms experience more success when a variety of approaches are used to study mathematics. In Math 2130, we'll explore mathematics concepts with group activities, discussions, interactive lectures, and writing assignments. In this class, it isn't possible to sit passively while you are told what you need to know. You will need to be actively thinking about mathematics and be prepared to explain these thoughts to your small group and to the class.

Math 2130 has a common final exam.