

ACES MATH: Pre-Calculus (II)

Course Description

This is the second part of a pre-calculus course that is intended to serve as a preparation for a regular two-semester course sequence on differential and integral calculus. The objective of the course is to help student make the transition from studying discrete mathematical objects to studying continuous objects.

Prerequisite. Students who plan to take this course should have taken the ACES mathematics courses: Precalculus (I). A placement test is required for anyone who did not take the prerequisite courses.

Textbooks. We recommend the following textbook for students to read:

Precalculus, 9th Edition
Michael Sullivan
Prentice Hall, 2012.

The course covers roughly topics in the second half of this book.

Main Topics. The main topics of this course include: (i) two- and high-dimensional vectors; (ii) matrices and determinants; (iii) imaginary and complex numbers; (iv) sequences and series; (v) the concepts of limits; and (vi) preview of calculus.

Homework. Learning mathematics is very similar to learning to play piano: you can not learn anything unless you practice a lot, and if you practice a lot you will be good at it. There is no shortcut here. Therefore, we will have a large (but still reasonable) amount of homework for the students after each lecture.

Communications. Students and their parents are encouraged to communicate with the instructor on issues directly related to the course, through the email address aces.math.info@gmail.com; For other issues related to the ACES after school program, please email aces4kidsinfo@gmail.com .