Abstract: The purpose of this seminar is to introduce in an elementary way some of the important mathematical concepts and ideas which are often not covered by the required undergraduate math curriculum.

In this talk I will focus on surfaces and in particular the fundamental question: when are two surfaces “the same”? (The notion of “sameness” refers to the shape and will be defined in the talk.) It turns out that the answer is given by a single integer called the Euler characteristic. I will present many examples and show how the Euler characteristic is calculated.

The talk will be accessible to all math (and probably science) majors.