For several years we have been teaching a computer science course geared to mathematics majors. This course has been taught using a computer algebra system as the programming environment. The goals are:

1. to get students comfortable with a CAS so that they will willingly use it in their course work and be ready to use it in research projects

2. to teach basic programming skills to allow students to migrate their skills to other programming environments with ease.

Originally taught using Mathematica, this course has recently been migrated to SAGE. In this talk I will give an overview of the course and point out some of the advantages and disadvantages of each CAS. (Received September 22, 2010)