

1096-VF-2508 **Charles Bergeron*** (chbergeron@gmail.com), Albany College of Pharmacy, and Health Sciences, 106 New Scotland Avenue, Albany, NY. *A program of weekly activities for learning Calculus using the computer algebra system Maxima.* Preliminary report.

I teach a single-semester Calculus course that covers most topics typically found in a year-long sequence, but with less depth, to first year pre-Pharmacy and pre-Medical students.

During the first week of classes, we download and install the open-source computer algebra system Maxima onto student laptops. One hour per week, I teach students the commands and syntax to execute 5 skills: define a function, plot a function, solve an equation, differentiate a function and integrate a function. With these skills, students complete lab activities, such as (1) plotting secant and tangent lines towards a better understanding of the limit definition of the derivative, (2) evaluating a definite integral that gives the area between curves, (3) finding and interpreting critical numbers as local extrema, and (4) solving optimization word problems.

Much of the course focus is on interpreting graphs and understanding the geometric significance of the derivative and integral. Maxima gives students a way to learn these ideas without being bogged down by weak precalculus skills. A lab manual is being written that can be used as a supplementary text for a calculus course. (Received September 17, 2013)