Engineering Freshman Jump into Design at Georgia Tech

Georgia Tech Aerospace Engineering students are getting a good idea of how interesting and complex design can be in a new Freshman Design course taught by Dr. Kurt Gramoll. Working Model®, along with Excel, Word, TK Solver, and MATLAB, are introduced to entering freshmen in this basic computers-in-engineering course.

The main goal of this class is not only to instruct students on some of the computer tools available to engineers, but to also teach students basic engineering concepts in both design and engineering science. According to Dr. Gramoll, Working Model is a perfect tool for freshman design courses because it allows students to do complex designs without excessive programming or macro writing in spreadsheets.

During the course, several labs are conducted using Working Model. Students start with simple spring-damper-mass vibration problems, and then move on to determining the orbital speed and altitude needed for a satellite to remain over one particular spot on the earth.

Students conclude the course by completing a final design project of a bungee jump platform. Given the customer's design parameters, there is not a correct answer. However, as in the real world, engineering students must make an engineering judgment to determine which parameters can be relaxed to satisfy crucial requirements.

Dr. Gramoll and his class found Working Model to be easy to learn and use for design. Two major benefits the simulation software provides are the ability to model real engineering problems and to perform advanced mechanical simulations that are not possible with pen and paper. Gramoll attributes Working Model's high quality and support to the fact that it is a commercial product with the budget needed to stay on the cutting edge of technology and interface design. Working Model is now being integrated into other courses in Georgia Tech's Aerospace Engineering department.