Professor Uses Working Model® as New Class Problem-Solving Tool

Professor Charles Proctor, of the University of Florida in Gainesville, has found a way to give his engineering students a more hands-on appreciation for their work. He now utilizes Working Model, inexpensive desktop mechanical simulation software developed by Knowledge Revolution of San Mateo, California. The product's intuitive interface and advanced simulation engine allows models to be created and analyzed quickly and simply.

"Working Model has proven to be a tremendous teaching aid," says Proctor. "I've used it as a visual example, when looking at certain systems of motion in analytical methods class. At the graduate level, my students apply it extensively in the design of two-dimensional systems. This last semester, the final assignment was to simulate the motion of the cervical spine through the use of Working Model. And in my Vibrations class, Working Model has become an indispensable part of my teaching methods."

Proctor first became interested in Working Model when he received a pre-release mailing for the product. He ordered it and began using it and has now gone through several upgrades.

"Working Model provides excellent numerical simulations on two-dimensional bodies for design analysis and on moving bodies that have contact and collision," says Proctor. "The students in my Vibrations class can now visualize what the equations of motion are telling them. This is something you don't often get to see. By putting in controls, they could see the actual motion during the simulation process. They especially liked seeing how a system starts to come apart."

During the first part of each semester, Proctor shows his class how to use the Working Model software. Then he lets them create models with his input. For the first test, students use an existing Working Model file created by Proctor to solve a problem.

The second test requires them to create a model and use it to solve any problem. On the final exam, students are given a specific problem for which they must create their own model to solve it.

"At mid-semester, we actually used Working Model in conjunction with MathCad to verify information in the textbook," Proctor noted. "And we were able to find various errors."

Proctor says that Working Model has given his students advanced skills that they normally wouldn't have acquired for several more years.

"They can do non-linear springs and dampers, measure output parameters...solve many problems," says Proctor. "Working Model has been very synergistic. The students have found it quite interesting and it has enabled them to play an active, rather than passive, role in the learning process."

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