



## Mechanical/Environmental Sustainability Project

### See-Through Nuclear Reactor Model

#### Mission Statement

Work towards the completion of a sub-scale see through model of a nuclear reactor in order to educate students and help them visualize the inner workings of a nuclear power plant, by August 16, 2012.

#### Synopsis

Through a donation from the U.S. Nuclear Regulatory Commission, the University of Hartford has had the opportunity to create a functional sub-scale model of a see-through nuclear power plant powered by electricity rather than nuclear fuel. The purpose of this sub-scale model is to educate people through demonstration about how nuclear power works. The purpose of the model being see-through is so that people can actually see what is happening inside the different components while it's running and understand all of the concepts and processes much easier than they would if they were simply looking at a diagram.

Using the latest CAD software, Autodesk Inventor, SolidWorks and LabView, a team of students from different state colleges and universities has created many 3-D model parts of the see thru nuclear power plant. From these drawings and models most of the physical parts have been created.

Graduate student Jason Smith and project directors Tom Filburn and Cy Yavuzturk are managing the project along with help from students in the LSSL program, or the Life Support and Sustainable Living program, to design and construct the model. Once the project is completed the reactor will be used as an educational tool at the University of Hartford to teach heat transfer classes and the new nuclear curriculum. Occasionally, the see thru model will be publically displayed at locations like the Connecticut Science Center.



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