

**Math 4990/6990: Simulation Modeling**  
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**Final Project Description**

Students in Math 4990/6990: Simulation Modeling designed team projects which showcased what they learned in mathematical modeling, computational simulation, and scientific visualization as applied to science and engineering applications. Each group of two or three students presented a poster in the class poster session and wrote a report on the team's findings.

**Final Project Topics**

The following topics were investigated as final course projects.

<b>Students</b>	<b>Area of UG or G Studies</b>	<b>Project Title or Project Topic</b>
Brooke Goree and Clayton Mord	Aerospace Engineering and Aerospace Engineering	Thermal and velocity profile of a space shuttle during re-entry
Robbin Bertucci and Chad Carpenter	Agricultural and Biological Engineering and Mechanical Engineering	Study of impact to tibia bone by use of 2-D finite element analysis
Mohammad Al Boni and Vidhya K.S.	Computational Engineering and Mathematics	Modeling and simulation of wind turbine and permanent magnet synchronous generator with respect to variable wind speeds
Michael Bozeman and Matthew Rutland	Aerospace Engineering and Aerospace Engineering	Analysis of a two-dimensional, compressible, viscous flow over the surface of an infinitesimally thin flat plate
Anna Caroline Bachstein, Brittany Govan, and Jeremy Walker	Mathematics, Aerospace Engineering, and Chemical Engineering	Bioterrorism, mosquitoes, and dengue fever
Henry Li and Robert Simmers	Aerospace Engineering and Aerospace Engineering	Variable heat diffusion of a gold bar
Justin Minor	Aerospace Engineering	Quasi 1D converging-diverging nozzle simulation based on Roes's scheme