**Senior Design Projects - 2008**

*Basic Utility Vehicle - School Bus*

Andrew Ellison, Matthew Farley, Daniel Kay

This team is designing and constructing a utility vehicle that can be used as a school bus in countries with lack of adequate transportation. This year's design targets African and Latin American countries with warm climates. The group finished 3rd in the National BUV Design Competition in April 2008, organized by the Institute for Affordable Transportation.

*Fabrication of Fatigue Delamination Test Rig*

Daryl Stamper, Jason Wyrick

This group is enhancing a test setup for composite delamination completed by a previous senior design group. The students will identify and correct problems with mounting and fixtures and run experiments to find the fatigue life of laminated composites.

*Automated Saline Dispenser for Fish Tank*

Jonathan Corrado, Jason Williamson, Brian Wallen

This team is designing a fish tank with a saline (salt) dispenser controlled by a microprocessor. This project is particularly challenging
since high humidity tends to coagulate salt.

*Comparative Analysis of Underwater Detention Systems*

Greg Gibbs and Ron Moore

This project compares three hydrologic programs that allow the user to obtain modeled detention systems. This study is being funded by Contech Stormwater Solution.

*CV Cage Visual Inspection System*

Pat Armontrout, Larry Wright, Anthony Brubaker

This project uses a camera and software for part inspection on a 300 ton punch press that is used to punch windows in CV bearing cages. This project is funded by the Timken Company

*Residential Elevator*

Dan Hellenbrand, Brendan Kuhl, Kerry Willet

This group is undertaking the design and fabrication of a residential elevator. The elevator has to meet the requirements of a person with disabilities. The students will design a completely new elevator by identifying the features and problems of a residential elevator
and incorporate the enhancements for easy use by a person with disability.

*Electric Vehicle*

Jacob Biederman and Greg Gosser

Students are converting an internal combustion engine on a pick up truck to electric power obtained from DC generators. The generators
will reside in a trailer mounted on back of the truck.

*Strain Gage Instrumentation Trainer*

Mike Carino and Bobby Woods

This team is designing a bridge/signal conditioning strain gage unit. Among other things, this unit will allow students in an instrumentation course to study heat effects of current through a strain gage.

*PLC Washer Separator Conveyor Design*

James Schwieterman, Greg Feathers, Tony Fischer

Students are designing a washer separating assembly conveyor controlled by a PLC and robot. All automation and fixtures are being designed by the students.

*PIC Controlled F.I.R.S.T. Robotics Trainer*

Joe Graham and Jeremy Roberts

This team is using their Miami University experience to design a robot trainer for Lakota high school students to use in preparation
for the F.I.R.S.T. Robotics competition.