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Students to compete with Formula-style car

By **Jeff Samoray**, OU Web Writer

Students from Oakland University's student affiliate of the Society of Automotive Engineers (SAE) are taking to the racetrack once again to compete with teams from around the world at the **2003 Collegiate Design Series Formula SAE** competition May 14-18 at the Pontiac Silverdome.

Held annually since 1981, the Formula SAE is one of the top student engineering competitions of its kind in the world. Students must design, fabricate and compete with Formula-style racecars. Restrictions are placed on the car frame and engine to test the students' knowledge, creativity and imagination. Four-cycle engines up to 610cc may be turbocharged or supercharged to add to the challenge of engine design.

The vehicles are judged in three different categories: static inspection and engineering design, solo performance trails, and high-performance track endurance. The competition features 140 teams from around the nation and world. Some of the international entrants are from Australia, Canada, Finland, Japan, Puerto Rico, the United Kingdom and Venezuela.

Last year was the first in which the Oakland University team successfully completed the competition. OU won the EDS Outstanding Sportsmanship Award and finished 51st in the acceleration event and 70th in the autocross and skid-pad events. The team applied its \$1,000 award to funding for this year's vehicle, which according to competition rules must be redesigned each year. The total vehicle cost was about \$12,000, which was funded by the student activities fee and several individual and corporate sponsors.

"This year's vehicle is much different from last year," said Kevin Kolath, vehicle design manager and master's student in mechanical engineering at OU. "The entire vehicle was designed in a CAD program and we spent a lot more time on the details of putting it together. We learned a lot last year about what goes on in the competition, which had an effect on this year's design."

Kolath and about 15 core SAE members began working on the vehicle immediately following the 2002 competition last May. Three team members performed design work over the summer. The purchasing of individual components and actual construction of the vehicle began last September and concluded a few weeks ago.

"We spent many hours doing construction – mostly on the weekends," Kolath said. "Many of us put in about eight to 12 hours working Saturdays and Sundays on this project."

The finished product has a 2001 Honda CBR 600cc engine and weighs 500 pounds without a driver. It also has about 64 horsepower, which enables it to go from 0-60 miles per hour in 3.6 seconds.

"Compared to the total weight of the vehicle, the engine is quite powerful," Kolath said.

Over the past few weeks, the team has tested the vehicle by recording driving times, adjusting the shock absorbers for compression rebound and adjusting the toe, caster and camber, and anti-roll bars to optimize over steering and under steering.

"We're hoping to do very well in the competition," Kolath said. "The track endurance is the make or break part because it's worth 35 percent of the total points. If we can place well in that category, then we'll be fine."

The SAE chapter at OU is a student affiliate of the national organization for students interested in automotive engineering. Members share information and exchange ideas for advancing the engineering of mobility systems and participate in hands-on engineering projects. The affiliate will formally unveil its Formula racecar Monday, May 12, at 5:30 p.m. at the garage in the Police and Support Services Building. Anyone interested may attend.

Those interested also may attend the Formula SAE competition, which runs from Wednesday, May 14, to Sunday, May 18. There is no charge to attend. For more information on the competition and an event schedule, visit the **2003 Collegiate Design Series Formula SAE** Web site.

SUMMARY

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