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## Acalanes Student Takes Senior Project for a Ride

By Lucy Amaral





Chris Oliveira with his bar stool go cart Photo Jennifer Wake

Parents, take stock of your household furniture. If you're not careful it could end up as a senior project in Bear Begelman's Design and Fabrication Shop at Acalanes High School.

Chris Oliveira, a senior at Acalanes and a student in Begelman's Fabrication 3 class combined his automotive acumen with the creative freedom of Mr. Begelman's class to design and build a bar stool go cart for his senior project.

"He had this wild idea to make a bar stool go cart," said Begelman. "He was excited about it, and he's a crackerjack with his hands. So, I said, 'If you are going to do this, it's not going to be haphazard. It must hold your weight and maintain torque.'"

Begelman's class offers students the opportunity to work with wood, metal, jewelry, ceramic tile and, according to Begelman, "Whatever someone can come up with." He said that other senior projects from his class have included a 17-foot kayak and an electric guitar.

Obviously this is not your father's wood shop.

This industrial-sized building at the far side of the high school houses sophisticated machines and an aura of creativity. "We can make anything here," said Oliveira. "It's a room full of possibilities."

Along with the full litany of smaller tools like wrenches, hammers and hand-sanders, large items like computer controlled routers, a full complement of work-working machines, plasma machines, mig welders, and tools for bending and shaping metal make their home here. Projects can range from cutting boards, to outdoor furniture to even an oversized, piece-welded, skull-shaped metal bobble-head.

Oliveira, 19, has worked on race cars with his dad since he was 10 years old and has worked for Gomes Motor Sports in Manteca for the past five as pit crew and shop mechanic, so the idea of a motorized bar stool was viable, but actually building one was maneuvering into uncharted territory.

"The hardest part was the designing," said Oliveira. "You have to fit a lot of things in a really tight space."

Begelman advised Oliveira through the intensive planning and design process. Begelman said that Oliveira spent a good deal of time researching similar machines, visualizing what he would want, the materials that would be needed and then laying it all out on paper.

What Oliveira ended up with was his go cart, boasting a 28 horsepower engine that runs on 110 octane gasoline that he says can go up to 70 miles an hour. Not that Oliveira runs it at 70. "I got it up to 55 miles per hour and got a little scared," he said.

It also ended up being more than a Naugahyde-topped, metal stool strapped to an engine. "Once you step back and look (at the end result), you see you've used fabrication, art, design, math," said Oliveira. "There's a lot of stuff wrapped up into one project."

Oliveira presented his project to a panel of judges at Acalanes, outlining his work,

offering his documentation and describing in Begelman's terms "what did you learn and how did it change your life."

While Oliveira doesn't know what his final grade yet, he has some plans for the go cart. "I'll probably mount a tool box on it and use it on the race track."

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