

SAE students have lofty goals

In the middle of the University of South Florida campus, inside one of the school's original structures, a group of dedicated young engineering students are having the time of their lives. There are 20-30 of them - bright minds form a close-knit team with vision, ambition, common goals and core beliefs.

They are the members of the Society of Automotive Engineers, another team from the USF campus that is not as famous and well-known as the football team, but every bit as driven, every bit as hungry to push their limits. Over the next eight months they will build their own formula race car. From scratch.

It is a complex process that started this past summer and will run through the 2011-2012 school year. It is a step-by-step process where the team will discover their own strengths and weaknesses. They will get to know each other well. They will add new members, as they do every year. They will court sponsors and basically do everything you'd expect a real-world small business to do.

Every team needs a leader, a driving force and club president Simon Restrepo is the man in charge of the production of the new formula racer. He wears many hats and will be the man in position of ultimate respect and achievement within the team - he will drive the car in competition.

Restrepo's second-in-command is the 2011-2012 team captain Joe Elder. Elder's leadership credo is simple. "Even as team captain, I do grunt work. We don't ask anyone to do something we haven't done ourselves," he explained.

There's the design and production work but like any business, there's the no-glamour tasks like sweeping the shop, painting trailers, cleaning and running errands.

"It's something every new member has to understand," said Kyle Jeffries, a former team captain who is still involved with the project. "This is real world experience equivalent to owning and operating a small business. Our team members will leave here with real world experience and they will have jobs waiting for them," Jeffries pointed out.

In these economic times, with many college graduates struggling to find work in their degree fields, these future engineers toss those concerns aside.

"Just about everyone who comes through here and puts in the time, everyone who learns how to be a valued team member," will have a job waiting for them," Restrepo added. Recruiters from the automotive field, among others, flock to the May formula competitions.

"Representatives from Hyundai, Honda, the U.S. auto makers, formula race teams, will show up looking for new talent," Restrepo said, speaking from experience at previous formula competitions.

The competition itself is the crowning achievement but before that, there's a daunting set of tasks in front of the team. The brain-storming sessions started this past summer. Goals were set and work began on sponsorships and materials that will be needed to produce the car. Once school opened for fall classes, the pace increased.

"We will divide into groups," Restrepo explained. "First we have to get on the computers and start with concept work. There's frame and suspension; ergonomics; brakes; drive train, power train, electrical, cooling system, body aero-dynamics; data gathering and testing."

Before the engine starts for the first time in May, there will be more than 10,000 man hours put in by the team. It will take teamwork, responsibility and old-school work ethic.

"You pay your dues. You have to do that to gain respect of the older members," Jeffries said. "Driving the car is the ultimate reward, the greatest form of respect." That's the privilege Restrepo has earned, along with three other members.

But before first lap is driven, there will be a lot of late nights and there-in lies one of the greatest challenges for the club. First and foremost, these are engineering students, one of the school's most challenging areas of study. School work comes first and that will translate into all the team members learning how to manage their time.

"We've seen many sunrises," Restrepo said with a smile, recalling past experience as the process moves into spring when the sense of urgency rises ten-fold. "After December as spring approaches is when we get the wake-up call," he added.

With USF in the midst of its football season, the SAE team does its share to support Skip Holtz and his Bulls squad. "We're at all the games, we tailgate, we take our bus; we have a good time," Restrepo said as he conducted a tour of "Skoolie" the team's well-traveled road bus, an old converted school bus that has logged more than 80,000 miles transporting the club to competitions.

The bus was made possible by a donation from the late Robert Koski, the founder of Sarasota-based Sun Hydraulics. He took an early interest in the team and the company continues as a sponsor, three years after Koski's death in 2008.

"Our main source of funding is USF Student Government," Restrepo said. "Our other sponsors include the Department of Mechanical Engineering, Bown and Miller Racing Solutions, Alro Metals, Bulls Outfitters, Solid Works and Tampa Bay Steel. We also get help from companies like Piloti. They make racing shoes and boots and they sent us eight pair. We asked for four. They retail for \$200 a pair, so that was really nice for them to do that for us."

Finding sponsors is just another facet of the club's "business." During their time at SAE, the members will get experience in accounting, public relations and communications. Before they head to the working world, they'll have a pretty good idea of how to manage a business venture.

Those other facets of "the business venture" attract students from outside the engineering world. "We have business majors, environmental science majors, some bio-medical science majors in addition to the engineering guys," Restrepo pointed out.

What they all have in common is a desire to learn and they have to be willing to put in long hours when needed.

It also takes time for a student to understand how the process works, how it evolves and how engineering studies play a part in the task. "A lot of times, a light goes off in a team member's mind around the third year," Restrepo said. "That's when they begin to understand what it's all about."

They will also get a better grasp of the team's goals and Restrepo has them set high. He wants the team to race in at least two, possibly three competitions. The first will be in Detroit, May 9-12, the Formula SAE Michigan. There's a second in Canada, the Formula North Ontario, May 24-27 then hopefully a third in Lincoln, Nebraska, June 20-23.

Restrepo's goal is finishes in the top 20 and that appearance in Canada, which would be a first-ever international event for USF. Beyond that, he wants a European appearance in 2013 at a Formula Student event in either Germany or England, if the team can raise enough money through donations and sponsorships.

Lofty goals but keep in mind this is no ordinary group. These students have an opportunity like no other. And opportunity is what their futures are all about.