**Abstract**

**San Antonio College (SAC) Hydrogen Fuel Cell Vehicle Undergraduate Research Project**

Engineering students from SAC, with guidance from SAC faculty, industry contacts, and Texas State University, are working to develop a hydrogen fuel cell vehicle (HFCV) for the prestigious Shell Eco-Marathon Americas competition in Detroit. Shell Eco-Marathon challenges student teams around the world to design, build, test and drive ultra-energy-efficient vehicles. To prepare for the competition, 20 engineering students formed the SAC Motorsport Team and, since September, have worked hundreds of hours researching, designing, and selecting equipment/materials for the HFCV; i.e., wheels & tires, steering & suspension, frame & body, motor & controller, and the fuel cell. The team has also worked hard getting equipment/parts donations and raising funds for this extremely complex and expensive project. The team currently has most of the equipment/parts needed to build the vehicle. However, due to key equipment delivery delays and other unforeseen circumstances, the vehicle will not be ready for the Shell Eco-Marathon competition in April. Nevertheless, the team will soon begin building the frame and chassis and bench test the electrical system. The team’s goal is to have a fully functioning hydrogen fuel cell vehicle by the end of this year. Then, they will tweak all vehicle systems to maximize fuel efficiency before competing in the 2017 Shell Eco-Marathon. This marquee SAC undergraduate research project promotes sustainability and energy efficiency. In addition, the vehicle will be used to recruit students into STEM fields/programs and help train the engineers of tomorrow.