Baja SAE Off-road Race Car Design

Baja SAE is an intercollegiate design competition run by the Society of Automotive Engineers (SAE). Teams of students from universities all over the world design and build small off-road cars. The cars all have engines of the same specifications, but other design elements are up to the team. The goal in Baja SAE racing is to design, build and race off-road vehicles that can withstand the harshest elements of rough terrain. The vehicles used in Baja SAE racing are often similar in appearance to dune buggies.

The car must adhere to SAE's rules, and pass a thorough technical inspection and judging; a car may not race until all safety inspections are passed. There are multiple dynamic events an endurance race. The dynamic events include hill climbs, chain pulls, maneuverability events, rock crawls, and suspension & traction events - depending on the rules that year. Static events, such as written reports, presentations and design evaluations are provided by participating teams. Teams are judged on ergonomics, functionality, and producibility of their cars, ensuring that the final placement of the team does not rest solely on the vehicle's performance but rather on a combination of static and dynamic events. [http://students.sae.org/competitions/bajasae/](http://students.sae.org/competitions/bajasae/)

MSU FSAE project runs on a 2-year build cycle, and this is the first year of build. Team members may be separated into two or more design groups to address different areas of automotive design.

Members of these two separate groups must work together in order to complete the car for the June 2016 competition. Three students remain on this project from last Spring term, so about 5 more are needed to join them. Those with applicable experience in fabrication, engine tuning, driveline maintenance, racing, CAD/FEA, and ORV experience driving will have preference.

Participants are required to join the MSU SAE club and the SAE International professional organization. Dues are about $25/year.

Sponsor: MSU Bobcat Motorsports club and the Department of Mechanical and Industrial Engineering