ABSTRACT

TITLE:	Development of an Sae Baja Racecar
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ABSTRACT: The Senior Seminar project is to design, model, fabricate, analyze, test, and manufacture a Baja racecar that will represent Fort Lewis College in a Society of Automotive Engineers (SAE) Baja Collegiate Design Series competition. The competition gathers students from universities all around the world to challenge their cars through a series of static and dynamic testing, such as overall weight, endurance racing, etc. The team objective was to produce a racecar that was safe, lightweight, cost effective, and abide by the SAE Baja 2016 Series Rulebook. The chassis was designed and fabricated to be safe, lightweight, and ergonomic. The front suspension was selected and developed to have double A-arms as an independent suspension, while the rear was selected to have no suspension. In competition, the lightest Baja car was recorded to weighed 296 [lb.] and heaviest weighed 931 [lb.]; our Baja car weighed approximately 325 [lb.]. In addition, the total cost to design and fabricate our Baja car was approximately $4,200, well under many competitors whose costs ranged from $7,000 to $30,000.