Overview & Application of Formula SAE for Interested Students
Make McDermott

Formula SAE - The Formula SAE (FSAE) competition provides challenging design and project management experiences. FSAE is a student design competition endorsed by SAE International (formerly the Society of Automotive Engineers) and supported by the major auto manufacturers and other companies. The objective is for student teams to design, construct, test/develop, and compete with small, open wheel racecars. The winner is determined based on three "static" events (design, cost, and business case presentation) and four "dynamic" events (acceleration, skid pad, autocross, and endurance/economy). For more info see http://students.sae.org/competitions/formulaseries/

Students Needed – Students with knowledge and/or experience in the following technologies or who are interested in learning about these technologies are needed for this project – vehicle dynamics (suspension & handling, MEEN 432), engines (MEEN 410 plus fluid dynamics & heat transfer), structures, aerodynamics, composites, and manufacturing. Project success also requires project management, fund raising, and teamwork. Students in ME and MMET and AERO are targeted. Other majors are also welcome. The Texas A&M FSAE car will be designed during the fall semester as the project for ENGR 401 - Interdisciplinary Design and built and developed during the spring semester in ENGR 402 - Interdisciplinary Design II.

Benefits From The TAMU FSAE Project - This project provides an opportunity to participate in as close to a real industrial design project as you will get in academia. You have a real budget and a schedule with an inflexible delivery date – the competition will not be delayed if Texas A&M has not completed their car. You have to deal with all of the dollars/schedule/people problems that will play a large part in determining the success of your professional career. You must build your design and make it work in the spring; your team mates are depending on you and you cannot BS hardware. This is a great learning experience. The project advisors interview and "hire" (no pay) a project manager, he/she picks his/her staff, and the students run the project. If man hours are charged at competitive engineering rates this is well over a $1,500,000 project and companies are impressed to see that on your resume. The Texas A&M FSAE and Formula Hybrid program has been very successful with five overall wins, two seconds, two thirds, and one Rookie of the Year award in 15 years competing against up to 120 university teams each year from all over the world. The budget for the TAMU FSAE competition is typically about $40K cash and $25K in free and discounted products from sponsors. One of the personal rewards of this project, other than the experience, is that most engineers find it very satisfying to see that the product that they designed and built performs as predicted and designed.

Commitment Required - The cost to you for this experience is that you will put in at least twice as much work as the typical student in the capstone design course; this project is equivalent to a design class plus a major volunteer extra-curricular activity. A two semester commitment is desired, but not absolutely required. Team members develop a very strong sense of responsibility to the team and do whatever is required to be sure that their part of the design/car works. This includes returning to campus immediately after New Year to begin building the racecar before classes start and probably working through spring break to finish it before Roll Out the following week. Be certain that you are willing to make this commitment before joining the FSAE team. Many former FSAE and FH team members have stated that their design project was the most rewarding experience of their academic career. As with anything else, what you get out of it is proportional to what you put into it.

How to Get Involved - If you have the prerequisites to take the capstone design course in your department, register for the section of ENGR 401 that has a Tuesday afternoon design studio in the fall (usually section 503). Most engineering departments will allow students to substitute ENGR 401 & 402 for two capstone design courses or one capstone design course and a tech elective depending on degree requirements. For MEEN students ENGR 401 & 402 will be substituted for MEEN 401 & 402. For other majors see your advisor for substitutions. Students who are not registering for ENGR 401 or 402 are encouraged to audit or participate in other aspects of the project as volunteers.

All students who would like to participate in the FSAE section of the design class must fill out the application form on the following pages providing some info about themselves. Email completed applications to mmcdermott@tamu.edu. Forms are available from the ME web site (www.mengr.tamu.edu – link to “current students” scroll down to “undergraduate forms”). If the course is over-subscribed or for some reason you do not have the prerequisites to be in this course/section your department advisors will register you for the appropriate course in your department that is compatible with your schedule.

I hope that you decide to participate.
APPLICATION

FORMULA SAE PROJECT
FALL = ENGR 401 / SPRING = ENGR 402

name: ________________________________________________________________________
current address: ________________________________________________________________________
home phone: ___________________ cell phone: __________________
non-TAMU email: ________________________________________________________________________
summer address: ________________________________________________________________________
summer phone: ___________________
taking summer courses? yes / no. If yes, what? __________ __________ __________
courses for fall 2014: ___________________ ___________________ ___________________
________________________ ___________________ ___________________ hours in fall: ______
courses for spring 2015: ___________________ ___________________ ___________________
________________________ ___________________ ___________________ hours in spring: _____
Major: __________ TAMU GPR overall: _______ TAMU GPR in major: _______

Will you continue in ENGR 402/Formula SAE next spring? yes / no
Will you be working (employed) during the academic year? yes/no If yes: ______ hrs / wk
Have you participated in any of the following TAMU SAE activities in the past?
Formula SAE: yes/no approximate number of hours _________________
Grassroots: yes/no approximate number of hours _________________
SAE officer: yes/no approximate number of hours _________________
Other: yes/no approximate number of hours _________________

Why do you want to participate in this project? _______________________________________

_________________________________________________________________________________

Previous experience with related technologies (not including required courses) - see list of
technologies in the “students needed” paragraph of the “overview”. Give specific activities and
approximate number of hours.

_________________________________________________________________________________

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(continued)
FORMULA SAE APPLICATION (continued)

Previous experience with any hands-on activities. Give specific activities (e.g., machine work, welding, electronics, auto mechanics, wood working, carpentry, etc.) and approximate number of hours of experience. Manufacturing experience (welding & fabrication, machining) is highly desirable.

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

Leadership experience (be specific; e.g., what positions of leadership have you held):

__________________________________________________________________________________

__________________________________________________________________________________

__________________________________________________________________________________

Special skills/strengths that you feel that you would bring to this project (be specific)

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__________________________________________________________________________________

__________________________________________________________________________________

Work experience - give company name, division, specific duties, and dates.

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Have you read the “Overview of Formula SAE for Interested Students”? yes / no

Email this application to Make McDermott (mmcdermott@tamu.edu) the FSAE project advisor and the instructor for the FSAE section of ENGR 401.