The Lyle School’s MdSDE (Multidisciplinary Senior Design Experience) is the gateway course for students to transition from their college experience to their professional careers. Corporate-sponsored projects create the experiential context for students to develop skills that cultivate high-performance teams. Additionally, these projects allow students to learn and grow from the expertise and insights of corporate mentors.

In the years leading up to this senior capstone experience, our computer science, computer engineering, electrical engineering, and mechanical engineering students gain a wealth of knowledge on fundamental engineering and computer science topics. In MdSDE, students apply their knowledge to explore creative solutions to tough problems; moreover, students practice the leadership and interpersonal behaviors to support successful project outcomes and professional development.

The Lyle School is seeking your help to support its talented and creative MdSDE students. We invite you to participate in a partnership, to provide an appropriately challenging project, an Industry Project Mentor for a student team, and a small financial donation. Through MdSDE, your company directly supports our educational goals and your organization guides and assesses future engineers and computer scientists.

**HERE ARE SOME CHARACTERISTICS OF GREAT PARTNERSHIPS AND SUCCESSFUL PROJECTS:**

- **1,000-1,200 hours of work over 8 months.** Our student teams typically devote 1,000-1,200 hours of work over an 8 month timeline on their projects, which can draw on knowledge and skills from any or all of the disciplines mentioned above.

- **Industry Project Mentor dedicated to success of the team and project.** In addition to Lyle faculty and graduate student teaching assistant, the best teams benefit from an Industry Project Mentor who meets regularly with these budding engineers and computer scientists guiding them both technically and professionally. This person should be able to dedicate 2-3 hours per week to the team and project.

- **Important and not time-critical.** A really great project is one that is important to your organization and can tolerate a year’s effort.

- **A Budget.** Students learn the management of resources and obtain access to discretionary supplies and materials needed to achieve the goals of the projects.

**TIMELINE FOR MdSDE**

**SUMMER**
- Refine project descriptions and scope
- Identify Industry Project Mentor(s) from partner organization
- Identify additional ways to engage
- Secure initial hardware or materials likely needed by team

**FALL**
- Teams assigned to projects
- Initial meetings between team and Industry Project Mentor
- Weekly communication between team and Industry Project Mentor
- At least 2 opportunities for design/prototype presentations

**SPRING**
- Continued weekly engagement between team and Industry Project Mentor
- At least 2 opportunities for prototype presentations and review
- MdSDE Design Expo and Project Presentations (late April)

Does your company have a project that has been on your mind for a while, but that it has not had the time to complete? Does your company have a project that needs a prototype or significant proof-of-concept to assess its viability?

MdSDE can help through the collaboration of our students, an Industry Project Mentor, and a faculty mentor.
The Lyle School takes the leadership and professional development of students as seriously as their technical development. The faculty of MdSDE and The Hart Center for Engineering Leadership (HCEL) collaboratively work to create a senior design experience that aids students in the development of both technical and interpersonal skills. The MdSDE course contains a meaningful integration of effective communication methods, problem solving, project management, ethical considerations and other important “soft skills” that promote successful careers.

LEADERSHIP DEVELOPMENT

Professor Carlos Davila brings deep electrical engineering knowledge to the program. cd@smu.edu

Professor Mark Fontenot focuses on software-related topics and innovative methods in engineering education. mfonten@smu.edu

Kathy Hubbard, Director of the HCEL ensures students gain leadership and interpersonal skills to be successful in their careers. khubbard@smu.edu

Professor Dona Mularkey brings industry experience and mechanical engineering expertise to the program. mularkey@smu.edu

OTHER WAYS TO ENGAGE MdSDE

In addition to sponsoring a project, there are many other ways to engage with the MdSDE course and students. Here are three examples. Contact a member of the MdSDE leadership team if you are interested in these opportunities.

EXPERTISE ON LOAN
Assist teams using your deep technical knowledge through onetime or ongoing expert mentorship. Help teams get up-to-speed quickly on new technologies and share tips, tricks, and best practices.

WORKSHOPS
Provide a student-centered, hands-on workshop over 3-5 hours on a technology of interest to you and of potential interest to students. You and your colleagues can get to know students during the workshop and through breaks.

FROM THE REAL WORLD...
Present to students on engineering in the real world, detailing topics such as interesting challenges encountered and how they were overcome or what you learned in the first year or two on the job.

PROJECT SPONSORSHIP

To support the experience of MdSDE for students through a sponsored project, we request a $10,000 educational experience gift for each project. This money will be used to help cover the cost of materials, supplies, people and equipment needed for the project. In addition, a volunteer from your company to serve as an Industry Project Mentor is also requested. This person will attend regular meetings with the team, typically on campus. Often, sponsors also provide specialized materials, tools and devices unique to the project. For example if a goal is to investigate new uses for a product, then samples of that product are typically provided to the team.

For more information or to discuss engaging with MdSDE, please email seniordesign@lyle.smu.edu or a member of the MdSDE Leadership Team.