Capstone DESIGN@MINES | Senior Design

The Mines community recognizes that many of the challenges facing society now and in the future can only be solved through multidisciplinary approaches. Every year, 500+ senior-level Mines engineering students go beyond the textbook to solve open-ended, real-world design problems sponsored by industry, communities, non-profits, government and social organizations.

Capstone Design@Mines engages students in 75+ projects during a two-semester course sequence for the Mechanical, Electrical, Civil, Environmental, and Design Engineering degree programs. Projects are a creative, client-driven design experience and span myriad industries, communities, and continents. Examples of developed solutions include the designs of ankle prosthetics for Paralympic snowboarders, sip and puff wheelchair training suite, safety restraints system for Gilpin County, Colorado EMS, and enema device for children with spina bifida.

Does your company have a challenge for DESIGN@MINES?

Compile a brief project overview with a list of deliverable you expect and submit it to our Capstone website at capstone.mines.edu/project-sponsorship/
Or contact Monica Kurtz at 303.384.2483 | mkurtz@mines.edu
Capstone Design@Mines brings together students to solve complex problems in new ways. Our multidisciplinary teams learn and apply the engineering design process to diverse engineering challenges: defining design requirements, conceptualizing multiple solutions, conducting engineering analysis, identifying risks and countermeasures, selecting and modeling concept solutions, and in many cases, prototyping and testing final solutions.

Projects are assigned to student teams in January and August at the start of the Spring and Fall semesters, respectively. We accept project ideas on a rolling basis, with early submissions receiving higher priority. **Final deadlines for new project submissions are:**

Fall Semester | July 15  
Spring Semester | November 1

Sponsorship Benefits

Sponsors of Capstone Design@Mines projects gain as much as they give to our students: new ideas and fresh solutions to existing challenges; meaningful outreach and mentorship opportunities; additional recruiting opportunities; and enhanced recognition of your organization on campus. In addition, Capstone teams produce actionable outputs through a 900 person-hours course dedicated to design study and client projects.

All analyses and calculations produced by student teams are reviewed by dedicated project and technical advisors. Enriching, impactful projects through Capstone Design@Mines would not be possible without the generous support of our sponsors. Capstone sponsors share critical resources with our student teams: time, subject matter knowledge, and in some cases, direct funding.

Monica Kurtz  
Stackholder Relations Manager  
Capstone Design@Mines

A project sponsorship fee of $5,000 is requested from commercial/industry clients, with reduced or waived fees for non-profit and governmental entities. Half of the sponsorship fee is made available directly to the sponsor’s project while the remaining funds are used to offset the numerous resources that support the student teams, including assigned Project Advisors, many of whom are industry experts or practicing engineers or scientists, faculty or practicing engineers, for each team. To learn more please contact Monica Kurtz at 303.384.2483 or mkurtz@mines.edu.
Cornerstone Design@Mines is an introduction to design for sophomores and juniors at Mines. Students have the opportunity to take a three credit course in Design I & Design II. The centerpiece of both courses is an open-ended design problem that students must solve as part of a team effort. This provides the practice that students need to become more skilled in the process of technical design as it is practiced in the workplace. These courses aim to build students’ confidence in applying a variety of problem-solving concepts in order to solve complex, open-ended problems in a team oriented approach.

Medical devices have been one area of design focus for some students. Last semester a student team designed a device to keep a cochlear implant in place for infants and toddlers. If you have a medical device idea that you would like a student team to design, please visit our Cornerstone website to submit your idea.

Cornerstone projects will not have a fee for Fall 2020 for client sponsorship and clients will have a full semester of working with a team of science and engineering students at Mines.