THE INDUSTRY SENIOR DESIGN PROGRAM AT UC RIVERSIDE

UC RIVERSIDE
Marlan and Rosemary Bourns College of Engineering

LET'S SHAPE THE FUTURE OF ENGINEERING TOGETHER.

The Corporate Sponsored Senior Design Program pairs talented fourth-year engineering students from the Marlan and Rosemary Bourns College of Engineering (BCOE) at UC Riverside with industry professionals. The guiding goal is to address real-world, interdisciplinary challenges. As a sponsor, you present a complex real-world challenge your organization faces. Student teams then apply their skills and explore innovative solutions.

Join us in shaping the future of engineering and gaining valuable insights and fresh perspectives for your organization. Together, we can partner to drive meaningful change and innovation.

> *For me, [the Capstone project] opened my eyes to how engineers are tasked with applying knowledge to create solutions. I underestimated the amount of presentations and preparation that engineers have to do for meetings and propositions, but it makes sense in hindsight that this would be the case since most of the people that we will have to propose to will not be engineers, but investors and senior management at companies or government bodies.*

STEWART SHINING '23 REFLECTS ON HIS WORK DESIGNING A PETROCHEMICAL PROCESS POTENTIALLY USEFUL FOR THE OIL-REFINING INDUSTRY

SPONSOR BENEFITS

- *Tailored opportunities to evaluate student talent and recruit for future positions.*
- *A novel, cost-effective approach to existing problems.*
- *Opportunity for industry mentors to enhance and apply their leadership skills.*
- *Increased public awareness of your organization.*
- *Forge enduring strategic relationships with BCOE Leadership and Faculty.*

PREVIOUS SPONSORS INCLUDE

HOWMET AEROSPACE

LOMA LINDA UNIVERSITY MEDICAL CENTER

Questions? Reach **Mike Allen** at mrallen@engr.ucr.edu | engr.ucr.edu/connect/corporate

PROGRAM OVERVIEW

Senior Design courses are organized to prepare students to face and solve complex, multi-faceted design challenges. Through the Senior Design program, student teams are offered the opportunity to deliver solutions for your company's problems. Mentored by a faculty member and a point of contact within your organization (appointed by your company), the student teams ideate, fabricate, and evaluate iterative prototypes. During this process, teams will comprehensively define a problem, its impact, and its real-world significance.

For your company's proposed project to be considered in this unique opportunity, you'll produce a 1 to 2-page project description. Our team of faculty and administrators will work with you to ensure that your proposal both meets your company's needs and the student learning objectives. Once finalized, these proposals are presented to the students at the start of the course as an opportunity to apply their skills. Students who demonstrate strong interest and qualifications are selected for projects based on their applications, with faculty input and sponsor involvement as needed.

WHAT TO INCLUDE IN YOUR PROPOSAL

Strong project proposals communicate:

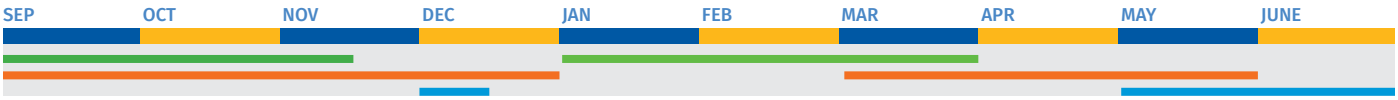
- *An easy-to-understand overview of the problem and proposed project for a team of 4 to 5 undergraduate students.*
- *Clearly stated expectations regarding a deliverable that can be completed in one to three academic quarters.*
- *Known functional limitations and a design scope that does not require custom testing equipment (unless sponsor can provide).*
- *Your organization's low-priority, real-world problems, including alternative potential pipelines.*

DEPARTMENT-BASED CAPSTONE PROGRAMS

- **Bioengineering**
- **Chemical & Environmental Engineering**
- **Computer Science & Engineering**
- **Electrical & Computer Engineering**
- **Materials Science & Engineering**
- **Mechanical Engineering**

SAMPLE TIMELINE

Varies by academic department



SEPTEMBER TO EARLY NOVEMBER

Project Description* Document is Due - A document outlining the details of the collaboration opportunity is finalized and approved by the corporate sponsor, BCOE, and the collaborating department.

SEPTEMBER TO DECEMBER

Project Matching - Students submit their applications and are assigned to project teams of 4 to 5 with whom they will work on their matched industry project for the remainder of the year.

Ideation - Teams develop detailed problem statements, solution concepts, alternative designs, and device specifications.

EARLY DECEMBER

Project Proposal Presentations - Teams present a technical pitch presentation and submit a preliminary report.

JANUARY TO MARCH

Device Fabrication - Teams go through multiple rounds of iterative design and fabricate a minimal viable prototype.

MARCH TO MAY

Projects in Progress - Teams continue device development and testing, refining components, and collecting and analyzing key proof-of-function data.

MAY TO JUNE

Senior Design Showcase - The program culminates with an event where student teams present project posters, discuss their work, answer questions, and demonstrate solutions.

*Project description documents can take anywhere from 1 to 6 months to prepare, depending on the complexity of the project and the availability of sponsors' points of contact to meet and discuss them. We are open to developing project description projects anytime during the year.

To become a sponsor or find out more:

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