

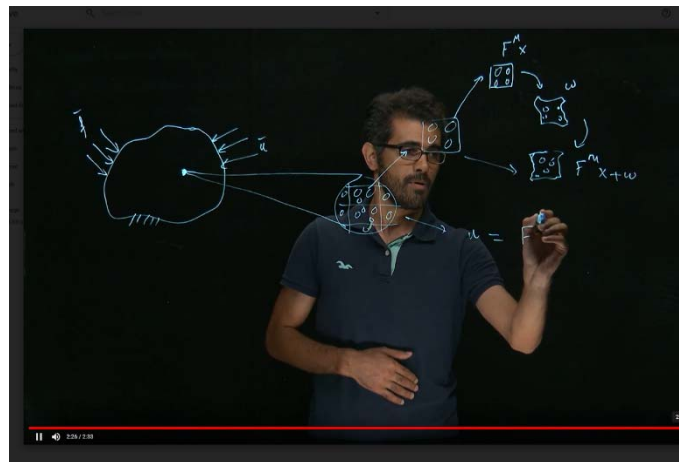
## An Engineering Lab Re-Imagined: MAE 170

To improve student success in a large, interdisciplinary, upper division engineering course, specialists in our Engaged Teaching Hub collaborated with a team in Mechanical and Aerospace Engineering, led by Professor Nicholas Boechler, to re-design the course, which enrolls nearly 600 students each year.

Dr. Boechler describes his experience working with the staff in the Engaged Teaching Hub as transformative:

*Throughout this process, for me, I think the most significant contribution has been a series of epiphanies / mind-exploding moments where I was brought to realize some underlying mechanics of how to effectively convey information and achieve my instructional goals, or even what the core is of what I am actually wanting to do. These were fairly 'meta' experiences, where the 'teaching teachers' were implementing the same strategies on us as we might apply in the classroom. The Engaged Teaching Education Specialists are incredibly valuable resources!*

Dr. Reza Behrou, a Postdoctoral Scholar in Mechanical and Aerospace Engineering, was a member of the team assembled by Professor Nicholas Boechler to re-imagine MAE 170, an upper division experimental techniques course that introduces 600 students per year to the experimental methods. He appears here in a video developed as part of the redesigned course materials.



The Engaged Teaching Hub staff worked with Professor Boechler and his team to draft a Course Development and Instructional Improvement Program (CDIIP) grant. The proposal articulates how this team will work with the Engaged Teaching Hub to create a hybrid flipped classroom, modernize lab experiments, improve writing instruction, and increase accessibility. Professor Boechler and



his team received, \$50,000, the maximum amount of funding available to applicants and as a result the department matched, \$10,000.

*The Engaged Teaching Team was instrumental in preparing my CDIIP grant. After initially bringing the opportunity to our attention, they met together with two of my postdoctoral researchers (who also are actively teaching at UCSD and working with the Engaged Teaching Hub) and I, and helped us frame what would be the most impactful target for a CDIIP grant. After that, they met with us several more times to help frame our goals and desired learning outcomes for the course (which I later realized was basically a mini-Course Redesign process), provide literature references and context on some of our goals, help us write a plan for assessment of the instructional improvement, and provide general feedback on the whole proposal. They were great about working around our schedule and always were super prompt with replies and help. It was a great experience!*