



# REINVENTING THE SCIENCE & ENGINEERING LIBRARY



UNIVERSITY OF CALIFORNIA  
SANTA CRUZ



## Transforming an architectural gem on Science Hill into a modern center of academic discovery and student success

Science Hill at UC Santa Cruz is home to tomorrow's astrophysicists, biomolecular engineers, environmental chemists, game designers, robotics developers, and leaders in scores of other fields.

A key resource for our students and faculty—the Science & Engineering Library—has been outpaced by rapid changes in technology, the workplace, and experiences that shape how science is explored and studied. We want to change that.

Our goal is to transform it into a new center of academic discovery, interactive technology, collaboration, and social connection that serves today's diversity of students. Woven into a stand of redwoods on Science Hill, the S&E Library is an architectural gem, but its infrastructure and interiors are largely unchanged since it opened in 1991.

Its new design will welcome and orient students. It will bring faculty and students together to explore ideas and bring them to life. It will give our graduates a competitive edge in the marketplace as they launch fulfilling careers in science, technology, engineering, and math.

We invite you to be a part of making the S&E Library a modern center of discovery and student success.

**“Increasing numbers of underrepresented and first-generation college students create a tremendous opportunity for UC Santa Cruz and our society. We don't want to just admit a diverse student population. We want these students to thrive in STEM fields as they might in any other major and graduate confident and ready to make their mark in the world. A Science & Engineering Library committed to diversifying the STEM workforce is an unprecedented opportunity for UC Santa Cruz to lead the way to a more inclusive society.”**

*Marlene Tromp, Campus Provost and Executive Vice Chancellor*

### New generations, changing needs

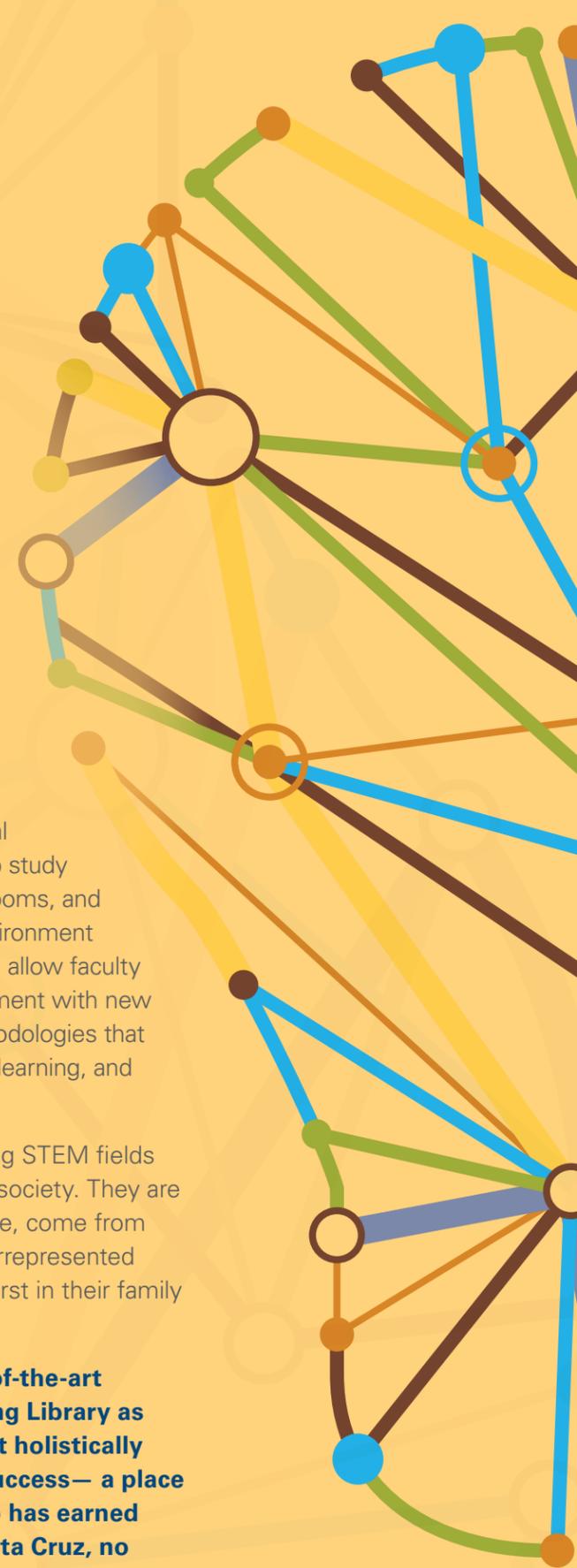
Since the Science & Engineering Library opened, our student body has nearly doubled to 17,000. Today, students and faculty seamlessly integrate technological tools and applications that were unimaginable the day S&E opened. Simply adding more outlets to accommodate all the laptops, mobile phones, and tablets would only begin to address the possibilities.

Today's collaborative learning and teaching approaches mirror the team-focused culture used by many successful Silicon Valley start-ups. We imagine a dynamic hub for the interactive collision of ideas from all disciplines—where collaboration is not only possible but encouraged, and students easily interact with faculty and mentors. Where programming, conferences, and seminars actively bring people together.

In addition to room for quiet, focused individual study, it will have group study areas, active learning rooms, and a makerspace. The environment of shared discovery will allow faculty and students to experiment with new technologies and methodologies that can enhance teaching, learning, and research.

Today, students entering STEM fields reflect a more diverse society. They are more likely to be female, come from underserved and underrepresented communities, and be first in their family to attend a university.

**We imagine a state-of-the-art Science & Engineering Library as a learning center that holistically prioritizes student success— a place where everyone who has earned admission to UC Santa Cruz, no matter their background, knows they can find support.**





► People are always trying to get whiteboard space. Maybe a whole wall of whiteboards, or writable glass walls, or even windows that we can write on and are able to erase.

—Ali-Moosa Mirza, MCD biology



◀ Being able to really network within the library, like using systems and applications, and being able to easily charge devices would be an immediate improvement.

—Thomas Zetino, electrical engineering

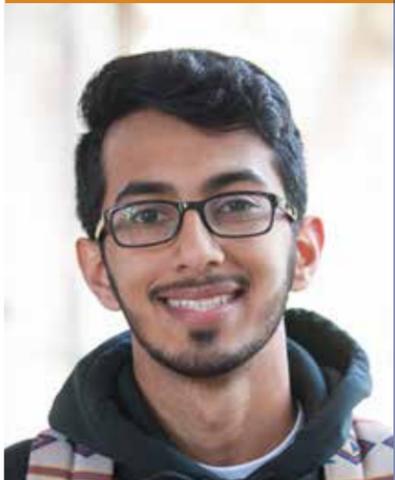
► Working in groups on projects builds community. I'd like more group study rooms with plenty of electrical outlets, movable tables, and other technology. A makerspace where we could learn in a hands-on way would be incredible.

—Shanee Dinay, computer science



◀ I made all my new friends last quarter at the library. They were in my class, but I really only knew them well once we worked together in the library.

—Kim Chuc, MCD biology



◀ The library could have a prayer or meditation room. It's a good way to de-stress, and it's important to a lot of people. Make it inclusive for people of faith as well as people who do not practice a religion.

—Shyaan Khan, computer science



◀ Our nearest food option closes at 4 p.m. I tend to study much later than that. A café is also in essence a meeting place. Food brings people together. To a certain extent, it is a group study space that also offers nourishment.

—Jasmin Morgia, environmental studies

## Student perspectives inform a new vision

To better understand today's science and engineering students, we analyzed demographic and graduation data. We found that students from historically underserved populations—

racial and ethnic minorities, low-income, and first-generation students—and women leave STEM studies at higher than average rates. If we are to meet the demands of the future,

we cannot afford to lose these talented and creative thinkers from these fields.

We spoke with many STEM students about their experiences and roadblocks to success.

### Students cited these challenges:

- 1 Not knowing where to find support
- 2 A feeling of isolation rather than community
- 3 Overwhelming academic pressure
- 4 No clear sense of career opportunities

Can a reinvented library help address these issues? We think the answer is a resounding "yes."

The new Science & Engineering Library will be an open and welcoming place that embraces digital technology, promotes community, and provides user services—as today's newest libraries are designed to do from the start.

## What does a library as a center for student success look like?

At its core is access to an immense array of digital and print research materials and tools. It brings students together to study, work with faculty and graduate students, build new ideas, and explore resources. It connects academic pursuits to entrepreneurship and invention, and to the world of possibilities. It shifts the dynamic by mitigating challenges many students experience:

### 1 Lowering barriers to asking questions and finding support

A central “ask us” service at the entrance will welcome and orient students and faculty. Signage throughout the library will be displayed and organized based on the user’s needs or activities such as, “Find a resource,” “Visualize data,” or “Find a study group.” Services will be connected through improved data management tools and mobile technology so library staff and faculty can more effectively support students.

### 2 Celebrating an atmosphere of community and collegiality

Group study rooms will support

collaboration by incorporating team tools, digital displays, and audio capabilities. “Work alone, together” settings will allow students to be with others even when they are working independently or quietly. A computer commons and group study spaces will be integrated with prototyping tools and other resources so learning teams can move easily from one activity to another.

### 3 Letting students catch their breath

In a pressurized academic environment, there will be areas to think quietly, revive, and focus. There will be food service, through

pop-up carts or a fixed café. Not only will this bring people together, but also it will allow students, staff, and faculty to be comfortable in the library for long stretches.

### 4 Offering relevant real-world experience

A makerspace, game labs, and visualization labs will provide the space and technology needed to bring ideas to life. Meeting and event spaces will allow the library to host symposia, workshops, and meetups. Guests, speakers, potential mentors, and alumni will be invited to share experiences in their fields, making the unfamiliar more approachable.



## Opportunities to seize the future

Engineering and the sciences will always be challenging fields to pursue. They are about reaching for the stars, curing cancer, saving species, and countless other big ideas.

The reinvented Science & Engineering Library at UC Santa Cruz will connect students and faculty in those pursuits to 21st century resources. Supporting students with the services they need reduces stressors, speeds graduation rates, and makes room for breakthrough thinking.

We imagine a library on Science Hill that actively helps ensure everyone has the opportunity to thrive in their chosen field.

When you support this project, you will be directly meeting current student needs as well as contributing to the future advances our graduates will bring to the world.



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**WE INVITE YOU TO JOIN US  
IN REINVENTING THE SCIENCE  
& ENGINEERING LIBRARY**

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