

BUILDING FOR THE
FUTURE
OF ENGINEERING

COLLEGE OF ENGINEERING
UNIVERSITY *of* WASHINGTON

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UW ENGINEERING: **Providing Washington's Leading Engineering Education**

With a strategic vision to deliver engineering excellence for the public good, the College of Engineering graduates more than 50% of the state's new engineers. **Thanks to state investments, since 2009, the College has nearly doubled in degrees granted annually — from 700 to 1,300+ bachelor's degrees, and from 500 to over 1,000 graduate degrees.** We are committed to continuing that growth and increasing access to underserved Washington students.



In addition to this degree expansion, we are pursuing more project-based learning, cross-college interdisciplinary teamwork, improved diversity and increased symbiosis with industry—all to prepare our students for the engineering careers of the future.

However, since 2009, our student-focused facilities have grown by just 18 percent (in terms of square footage), leading to a space shortage. **As Washington's premier educator of engineers, the College continues to turn away large numbers of qualified applicants because we simply don't have the space to accommodate them.**

Not only are we lacking enough space, but we lack the right kinds of space for today's interdisciplinary, collaborative engineering education.

As the ways we teach and conduct research evolve in response to the changing needs of the engineering industry, our spaces must also evolve and expand. With your help, we can provide the learning and research facilities that best support future Washington engineers.



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Figure 1: Expected Annual WA Job Growth in Engineering & Computer-Related Fields vs. Annual Degree Production:

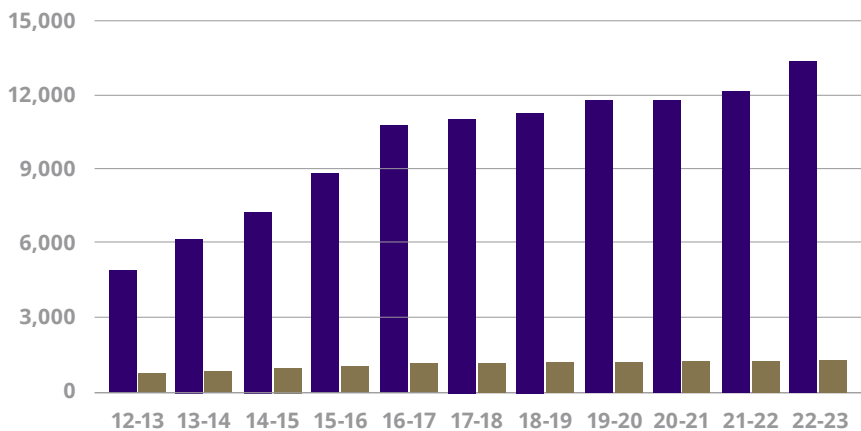
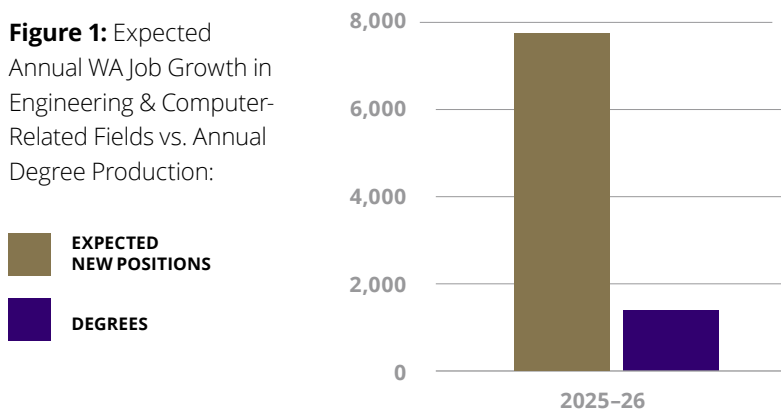


Figure 2 Demand for an engineering undergraduate programs versus UW Engineering capacity for applicants.

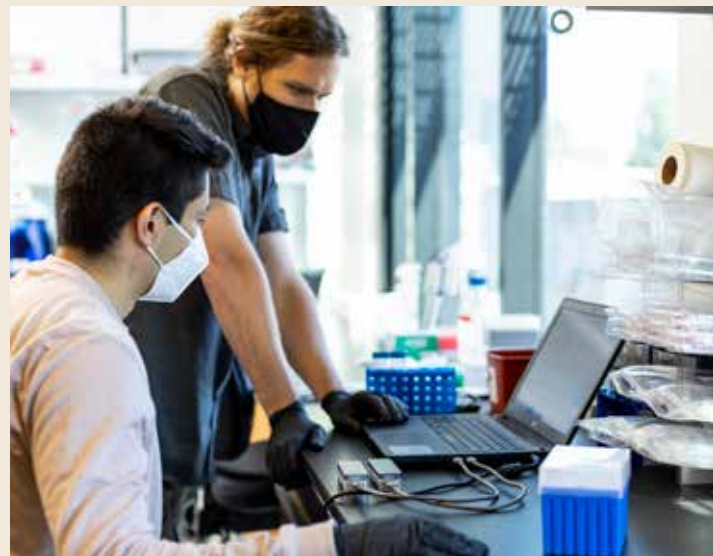
■ DEMAND
■ CAPACITY

SPACE LIMITATIONS FOR GROWTH

Looking ahead, demand from both industry and prospective students for engineering programming and degrees will continue to outpace capacity, despite state-funded College of Engineering growth. Figure 1 shows a comparison of current and future annual growth in engineering and computer-related employment relative to the degrees the College of Engineering will produce. Employment is expected to increase at a much faster rate than degree production.

Lack of engineering degree capacity denies our state's students access to high-impact career opportunities. At the same time, a shortage of available local talent hinders local companies and public works, negatively affecting regional prosperity. Insufficient engineering talent is the number one challenge for innovation-based companies in our state, which threatens our long-term success and global competitiveness.

The college's core engineering facilities are stretched past capacity, and over half of its 25 buildings are outdated, with classrooms and laboratories designed for the traditional educational style of the past. We have reached the limit of the number of students we can safely accommodate in our labs; without more learning and project space, adding more instructors and more students becomes counterproductive. **The UW must augment our existing facilities to meet the needs of contemporary engineering education.**



A Home for the **ENGINEERS OF THE** **FUTU**

UW Engineering's goal is not only to expand, but to become more inclusive, collaborative, innovative and adaptable, with programs supported by facilities rivaling or exceeding those of our peer institutions.

To support this vision, the college is constructing a **new, interdisciplinary engineering building (IEB)** to provide an academic "home" for all undergraduate engineering students with faculty-student research and project collaboration space.

By providing the silo-free learning environment and program space that students need to prepare for their careers (see sidebar, "Transformative Spaces"), the IEB will relieve pressure on departmental facilities across the college. Space for industry-sponsored capstone projects will strengthen connections between the UW and industry, opening doors to post-degree employment for students and faculty-student translational research. The

new building will also house programming for leadership, diversity and access.

The IEB will enable UW Engineering to provide more access for talented Washington students, while building on our current educational excellence and innovation.

Finally, the college's new AI Education Institute will be headquartered in the IEB. The institute will transform research and education in fundamental artificial intelligence (AI) and machine learning (ML) theory, algorithms, and applications specifically for safe and certifiable real-time learning and control of complex dynamic systems. Located centrally in the IEB, the institute will enable the college to provide first-class engineering education while advancing cutting-edge research.

TRANSFORMATIVE Spaces

The IEB will house:

- **Classrooms**—flexible and designed for active learning

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- **Curriculum space**—including lab equipment required for accreditation
- **Project space**—designed for flexibility, with movable furniture and open floor space, to enable hands-on learning from design to solution

- **Student space**—dedicated informal gathering space for students to meet, study and collaborate
- **Offices for faculty and student support staff**

The Time is Now to Invest in **WASHINGTON STUDENTS**

The state has contributed \$50 million for design and construction of the IEB; now, we seek to match these funds with private philanthropic investments to meet the estimated project cost of \$90 million.

We are at a pivotal moment. Your support will help supply our students with learning environments that will:

- Enable us to grant more UW Engineering degrees to talented Washington students;
- Provide an educational “home” for cross-disciplinary courses and programs;
- Encourage the interactions that are critical to sparking new ideas;
- Develop students’ talents in premier teaching and learning spaces, laboratories and makerspaces; and
- Facilitate engineering discovery by housing state-of-the-art AI and ML education and research spaces.



We invite you to partner with us.

For more information, contact:

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THANK YOU FOR YOUR INTEREST IN THE COLLEGE OF ENGINEERING.