

# At top public universities, a mixed record for women in engineering

---



By **Nick Anderson** September 21

Women earned about a third of all engineering degrees at the University of Virginia in 2015, making the state flagship first on that measure among prominent public schools nationwide.

But reaching gender parity in engineering could take many years for U-Va. and other public universities.

Federal data show women earned a majority of bachelor's degrees in engineering in 2015 at two private schools with sizable programs. At Franklin W. Olin College of Engineering, their share was 53 percent, and at Massachusetts Institute of Technology it was 51 percent.

---

## Grade Point newsletter

News and issues affecting higher education.

[Sign up](#)

---

Women netted at least 40 percent of engineering degrees that year at Yale (49 percent), Howard (45), George Washington (43), Harvey Mudd (42), Brown (41) and Southern Methodist (41).

The national average is about 20 percent, reflecting generations of male dominance in the field. The female share of engineering graduates at most prominent public universities hovers around that mark because those schools have far higher enrollment than private schools. Georgia Tech, with nearly 2,000 engineering graduates a

year, has one of the largest programs in the country. It produces more engineering degrees than all of the above-named private schools combined, and the female share of its engineering graduates was 26 percent in 2015, up nearly 5 points in five years.

Last year, women publicly asserted their place in engineering through a movement that caught fire on social media. Seeking to dispel stereotypes, they posted pictures of themselves at work with the hashtag #ilooklikeanengineer.

Here is a Washington Post analysis of engineering degrees at state flagships and other major public schools. The table shows total bachelor's degrees in engineering awarded in 2014-2015, the share earned by women and the change in percentage points for the female share compared to 2009-2010.

SCHOOL	STATE	DEGREES	FEMALE SHARE	FIVE YEAR CHANGE
University of Virginia	VA	552	33.2%	2.4%
Colorado School of Mines	CO	800	29.1%	5.1%
University of Arizona	AZ	397	26.7%	4.4%
North Carolina State University at Raleigh	NC	1353	26.6%	2.0%
Georgia Tech	GA	1985	26.0%	4.0%
University of Michigan-Ann Arbor	MI	1210	25.3%	1.4%
University of Mississippi	MS	178	24.7%	4.5%
University of Connecticut	CT	473	24.3%	9.3%
University of Florida	FL	1134	24.3%	2.6%
University of Delaware	DE	429	24.2%	5.7%
University of Hawaii at Manoa	HI	235	23.8%	4.7%
Clemson University	SC	740	23.4%	5.4%

U-Va.'s engineering school, founded in 1836, is one of the oldest in the country. It produces about 550 bachelor's degrees a year, which puts it slightly above the middle of the pack in terms of size among 90 public programs The Post analyzed.

The gender profile of engineering at U-Va. — 33 percent of graduates in the field were female in 2015, up 2 points since 2010 — reflects in part the specialties popular at the school. Women earn more than 40 percent of biomedical engineering and civil engineering degrees at U-Va., but only about a quarter of mechanical engineering degrees and about only one out of every eight aerospace engineering degrees. Those figures echo national patterns.

At the University of Maryland at College Park, the female share of engineering graduates was 21 percent in 2015, almost unchanged over five years. At the University of Maryland Baltimore County, it was 19 percent, up nearly 4 points. At Virginia Tech, it was 18 percent, up a little more than 1 point. Virginia Tech and College Park have larger programs than U-Va.

Pam Norris, executive associate dean for research at U-Va.'s engineering school, said the university draws a significant number of women to its program because of the expansive approach it takes to teaching. The school emphasizes teamwork, ethics and communications, Norris said, and it encourages students to take advantage of courses outside of engineering to develop double majors or minors. All of that attracts “a more diverse set of students” than might be otherwise found in engineering, she said.

The university also has sought in recent years to highlight the impact of research on humanity.

“We’re not just doing science to do science, but to help solve the world’s pressing problems, to make the world a better place,” Norris said.

Norris, a mechanical engineer on the U-Va. faculty since 1994, said the university has had a solid share of women in engineering for many years. She hopes women will make up at least a third of the students in every engineering specialty, enough so they do not feel self-conscious in class. Exactly what share constitutes a critical mass can vary, but it need not be 50 percent.

“Getting to the point where no one feels like they’re ‘different,’ I’d say is the goal,” Norris said.

Craig Benson, U-Va.'s engineering dean, said gender diversity is essential not only for moral reasons but also for effective problem-solving.

“Men and women look at science problems very differently,” Benson said. “When you’re in a meeting with a bunch of men that are in their middle 50s and white, you get a certain mantra of how you should go about doing things. Put a bunch of women in that group — half women and half men — and the discussion is very different.”

Now, Benson said, U-Va. also wants to ensure it has racial and ethnic diversity in its engineering classes. About 4 percent of its engineering graduates are black, and 6 percent are Latino or Hispanic.

“Our gender diversity numbers are pretty good,” he said. “Some of our other numbers could be a lot better.”

Nick Anderson covers higher education for The Washington Post. He has been a writer and editor at The Post since 2005.

🐦 Follow @wpsnick

### **The Post Recommends**

## **Democratic hopes of winning Senate fade as Trump proves less toxic for Republicans**

The significant shift in the Senate battlefield appears to be the result of voters separating Trump from Republicans running on the same ballot with him.

## **A Playboy Playmate found this normal woman’s naked body gross. So she posted it online.**

Los Angeles police are investigating.

## **This is why Hillary Clinton isn’t ‘50 points ahead’ – or even 10 points ahead**

3 reasons.