

Departmental BPC Plan
Department of Computer Science
George Mason University



Effective dates of Plan: 04/04/2024 - 04/04/2026

Contact: Prof. David S. Rosenblum, Department Chair (dsr@gmu.edu)

1. Context

George Mason University (Mason), a Carnegie R1 university, is Virginia's largest and most diverse public university and the fastest growing public university in the nation, with 39,528 students. With nearly 3300 students and 68 faculty, the Department of Computer Science (CS) is the largest and fastest growing department within the School of Computing and the broader College of Engineering and Computing (CEC). Over the last decade, there has been a steady increase in the proportion of CS undergraduates who are female or from underrepresented groups (specifically African Americans and Hispanics). Nevertheless, the proportion of students from these groups does not yet match the demographics of Mason or the Commonwealth of Virginia.

The table below presents key demographic statistics about Virginia (VA, 2010/2020/2023 US Census), and about the undergraduate population of Mason, CEC and CS (Fall 2011/2021/2023 GMU Census).

Years	Women				African-American				Hispanic			
	VA	Mason	CEC	CS	VA	Mason	CEC	CS	VA	Mason	CEC	CS
2010 Fall 2011	50.9%	52.0%	16.6%	12.1%	19.2%	9.0%	7.7%	5.1%	7.3%	10.2%	9.0%	7.0%
2020 Fall 2021	50.8%	49.6%	23.1%	19.9%	20.9%	11.4%	10.9%	8.6%	10.5%	16.4%	11.4%	9.0%
2023 Fall 2023	50.5%	48.9%	25.2%	22.1%	20%	12.3%	11.5%	9.2%	10.5%	17.4%	12.3%	9.3%

2. Goals

G1: From 2020 to 2023, we increased the percentage of enrolled women students in the Computer Science major from 19.9% to 22.1% (Fall 2023). We aim to continue this positive trend and further raise enrollment to 33% within the next 10 years.

G2: Increase the *proportion* of African-American and Hispanic (AH) undergraduate students from 18% to 21% within the next 3 years and to 27% within 10 years.

G3: Increase the *number* of female and AH undergraduates engaging in research activities by 25% within 3 years and by 100% in 10 years

3. Activities and Measurement

A1: Cross-cutting Initiatives (G1, G2, G3)

- A1a: We have established a standing BPC Committee within the CS department, tasked with collaborating with faculty and staff to accomplish the department's BPC objectives. The committee will continue to convene, with oversight provided by the CS Department Chair and the CS Director of Inclusive Computing, who serves as the committee chair.
- A1b: hire a new staff member for collection and analysis of data related to student performance and retention disaggregated by gender, race, and ethnicity. (expected date: AY 2024-25; contact

persons: CS Department Chair, School of Computing Divisional Dean).

A2: Recruitment (G1, G2)

- A2a: hire staff to support outreach to admitted women and AH students and for active CS recruitment from communities of color around the region. (contact persons: CS Department Chair, CS Director of Inclusive Computing, School of Computing Divisional Dean).
- A2b: over the past two years, we have added nine new concentrations to our BS in Applied Computer Science across a range of disciplines, including Business, Humanities and Technology Policy. Moving forward, we will develop additional concentrations that can attract more women and AH students. This effort will be overseen by the CS Department Chair, CS Associate Chairs for Undergraduate Studies, and the School of Computing Divisional Dean.
- A2c: engage with NOVA ADVANCE (a pathway partnership with the Northern Virginia Community College System) to strengthen the transfer of two-year students to a successful four-year CS major. Such students have a greater percentage of women and AH students than other sources of majors (contact persons: CS Associate Chairs for Undergraduate Studies).
- A2d: continue our outreach and invite students from the DC Metropolitan Area high schools that have a high percentage of AH students for on-campus activities such as robotics and data analytics competitions (contact person: CS Director of Inclusive Computing).

A3: Retention (G1, G2)

- A3a: Women and AH students tend to begin CS degree programs with less prior exposure to CS than other students. We have reformed our introductory programming course to be more inclusive of individuals with less exposure to computer science. Additionally, we continue to reform CS introductory courses by teaching knowledge that is required in our courses, but not taught (contact persons: CS BPC and Undergraduate Studies Committee Chairs).
- A3b: continue to engage with student chapters of Girls who Code, Society of Women Engineers, NSBE, NCWIT, Women of Color in STEM, and Society of Hispanic Professional Engineers to promote CS research and educational opportunities (contact person: CS Director of Inclusive Computing).
- A3c: support attendance of faculty and students at Tapia, Grace Hopper, Anita Borg, Girls in Tech Catalyst, Wonder Women Tech, Global Tech Women Voices and Grad. Cohort Conferences. (contact persons: CS Director of Inclusive Computing, CS Department Chair).
- A3d: We have established a peer mentorship program called 'pathfindHER' designed to facilitate upperclass women mentoring underclass women in CEC majors, with support from faculty and undergraduate advisors. Moving forward, we are committed to collaborating with faculty and the department to further enhance peer mentorship opportunities and promote student success. (contact person: CS Director of Inclusive Computing).

A4: Research Engagement (G3)

- A4a: incentivize faculty to mentor women and AH students in research projects funded via extramural grants (e.g., NSF REU site, NSF REU supplements, NSF NRT grants) and internal funding from Mason's Office of Undergraduate Student Scholarship (OSCAR) (contact persons: CS Department Chair, CS Faculty, School of Computing Divisional Dean)

Measurement

- measurements of demographic shifts in the CS undergraduate student population relative to the university undergraduate population, with respect to admission, acceptance, graduation and retention **(G1, G2, A1, A2, A3)**.
- the percentage of students engaging in research/mentoring, as measured through the CRA Data Buddies Survey and custom faculty surveys **(G3, A4)**