

Departmental BPC Plan
Department of Computer Science
Stevens Institute of Technology



Effective dates of Plan: 01/17/2024 - 01/17/2026

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Context. Stevens Institute of Technology is a science and engineering school located in Hoboken, New Jersey, just across the Hudson from New York City. SIT has approximately 9000 students, of whom roughly 20% are pursuing degrees in the CS department: BS degrees in CS and cybersecurity; MS degrees in CS, ML, and cybersecurity; and Ph.D. degrees in CS. In accord with regional demographics, we focus on these historically underrepresented groups (HUGs): women, Black and Hispanic students and faculty. The table shows the demographics for HUGs as of Spring 2023.

Level	#Students	Female	Black	Hispanic/Latinx
Bachelor	871	21.2%	2.4%	11.5%
Masters	1190	22.2%	0.4%	2.4%
Doctoral	48	31.3%	*	*
SIT Overall	8721	29.5%	1.6%	24.9%
New Jersey	pop. 9.3M	50.7%	15.4%	21.9%

*Percentages that represent very small numbers of people have been omitted to protect privacy.

Of the CS department faculty, 33% are women, a small number are Hispanic, and none are Black. SIT’s Office of Student Culture and Belonging runs several campus-wide broadening participation initiatives. Until recently, the department organized few broadening participation activities.

Goals, Activities, and Measurement

G1: By 2030, we will increase the presence of women undergraduates, black undergraduates, and Hispanic undergraduates to match or exceed the overall university percentages.

A1a: Faculty will guide the design and development of a web and social media presence to promote the department’s BPC activities and to recruit students from HUGs [Alrumayh, Brennan].

A1b: Faculty will increase their involvement in recruiting efforts by the Admissions office, focusing on how CS is represented and on direct outreach to admitted CS students from HUGs [Hong].

A1c: Faculty will participate in outreach programs that broaden participation in computing and also recruit students from HUGs, e.g., INSPIRE, an outreach program for nearby Jersey City schools that encourages students from HUGs to develop an interest in computing [Koskinen, Duggan].

M1: Percentages of students in the department per demographic category each year; rates of change of these percentages. BPC related changes/additions to department's web and social media presence; # and demographics of admitted students contacted; # faculty participating; # and demographics of students reached by outreach programs.

G2: By 2024 we will develop a maintainable data analysis process to measure the academic progress and retention rates among HUG students.

A2a: Faculty will track department BPC metrics including representation by race/ethnicity, gender, and intersections of these for Ph.D. students enrolled, Ph.D. degree recipients, MS students enrolled, MS degree recipients, BS students enrolled, BS student degree recipients [P. Wang].

A2b: Faculty will analyze data from the previous 5 years to identify if there are persistent gaps in the program by gender or race/ethnicity. This includes fine-grained drop/fail/withdraw (DFW) rates for CS1, attrition rates after CS1, and attrition rates after CS2 [Liu].

A2c: Faculty will conduct surveys of current students about departmental climate and career outcomes, e.g., internships and junior-year job offers [Naumann].

M2: Thoroughness of data with respect to existing benchmarks, e.g., CRA survey data; completion of automated data pipeline.

G3: By 2026, we will implement and expand activities intended to improve academic and career success among students from HUGs.

A3a: Faculty will host a regional Women in CS conference [Terolli].

A3b: Faculty will create and provide ongoing support to sustain peer-mentoring and affinity groups for undergraduate and graduate students [Meunier, Mordohai].

A3c: Faculty will organize monthly study groups for students from HUGs to help with coursework and with technical interview prep [Eiers].

A3d: Faculty will organize and secure institutional funding for student attendance at a diversity-focused conference, and attend with the students (e.g., WeCode, Grace Hopper, Richard Tapia, also a regional Celebration of Women in Computing) [Terolli].

A3e: Faculty will explore curricular and pedagogical changes to the introductory course sequence, providing multiple paths to better support students with less background in CS, which includes a disproportionately large number of students from HUGs [Muralidhar].

A3f: To ensure that faculty and graduate students from HUGs benefit from relevant professional development opportunities, faculty will advertise these opportunities and work with department leadership to provide funding for students to attend [Kleinberg].

M3: # students participating; # getting internships; decrease in DFW grades; retention; jobs (see G2).

G4: By 2026, implement processes for measuring and improving recruitment and retention rates for faculty from HUGs.

A4a: Faculty will implement and improve equitable hiring practices in search committees [Ning, Mordohai].

A4b: Faculty will implement best practices to address biases in teaching evaluations and mitigate the impact of those biases on faculty annual evaluations and promotion [Liu].

A4c: Faculty leadership will develop a dashboard for transparency and to improve equity in faculty service [Naumann].

M4: Percentage participating in recruitment training; data on applications/interviews/offers; climate survey; retention data.

G5: By 2025, 85% of faculty will have been trained in inclusive pedagogy.

A5a: Faculty will attend an inclusive pedagogy training session offered by the Teaching and Learning Center [Naumann].

A5b: Faculty will participate in other trainings and coaching, such as online courses, SIGCSE workshops, events on inclusive pedagogy, self-guided trainings [Naumann].

M5: Faculty participation rate, practices implemented (Faculty Activity Report data).