

**Departmental BPC Plan
Khoury College of Computer Sciences
Northeastern University**



Effective dates of plan: 09/02/2022 to 09/02/2024

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1. Context

Khoury College of Computer Sciences, Northeastern University offers degree and certificate programs in computer science, data science, cybersecurity, and interdisciplinary programs linked with other NU colleges. As of Fall 2021, Khoury College enrolled 5919 total students (2938 UGs, 2748 MS or graduate certificate students, and 233 PhD students) and employed 142 full-time faculty. The college runs UG, MS, and PhD programs at the main Boston campus and educates MS and graduate certificate students at 5 of the university's 8 other campuses.

The college's mission is *CS for Everyone, CS for Society*, and our BPC plan is an integral component. The college has a history of education and outreach activities designed to increase participation of underrepresented groups. Recent increases have been seen in women UG and MS students due to Combined Majors and the innovative Align MS program. As of Fall 2021, 56% of our 2938 UGs were pursuing a combined major and 36% of them were women. This surpasses 2020 IPEDS data, indicating 21.5% of U.S. computing graduates were women. The Align MS program (a subset of our MS students) enrolled a total of 1373 students: 7% are BIPOC (defined in "Notes" below), and 53% are women. Most recent NCES data (AY 2018-2019) indicated 32.8% of MS students nationally were women. While our progress is encouraging, college-wide statistics (tables below) reveal opportunities for higher rates of participation for women in CS-only UG, MS, and PhD programs and for BIPOC students in all programs.

Khoury College of Computer Sciences UG Demographics	Fall 2019	Fall 2020	Fall 2021
Women	28%	30%	32%
Men	72%	70%	68%
Unknown or Non-Binary	<5%	<5%	<5%

Khoury College of Computer Sciences UG Demographics	Fall 2019	Fall 2020	Fall 2021
BIPOC	13%	15%	18%
Non-BIPOC	87%	85%	82%

Khoury College of Computer Sciences MS & Certificate Demographics	Fall 2019	Fall 2020	Fall 2021
Women	35%	42%	42%
Men	65%	58%	57%
Unknown or Non-Binary	<5%	<5%	<5%

Khoury College of Computer Sciences MS & Certificate Demographics	Fall 2019	Fall 2020	Fall 2021
BIPOC	5%	6%	5%
Non-BIPOC	95%	94%	95%

Khoury College of Computer Sciences PhD Demographics	Fall 2019	Fall 2020	Fall 2021
Women	23%	22%	24%
Men	77%	78%	76%
Unknown or Non-Binary	<5%	<5%	<5%

Khoury College of Computer Sciences PhD Demographics	Fall 2019	Fall 2020	Fall 2021
BIPOC	<5%	<5%	<5%
Non-BIPOC	96%	97%	95%

Notes: (a) Values indicated by <5% are not specified to protect the confidentiality of individuals summarized in the data. (b) We define BIPOC as Black, Indigenous, and people of color, which includes Hispanic, Pacific Islander, and people of multiple ethnic and racial identities.

2. Goals

This Khoury College plan lays out a two-year roadmap for faculty participation in BPC efforts. We are committed to addressing the current underrepresentation of women and BIPOC students in CS and related disciplines. Our overall framework is evaluation to action, emphasizing data collection and dissemination combined with innovation and improved program implementation. BPC goals, activities, and evaluation, which are explicitly linked to the Dean's strategic plan for DEIAB, will enable faculty to meaningfully meet NSF expectations for BPC and at the same time contribute to the college's inclusive mission.

G1: Faculty, supported by key staff, will (a) design a comprehensive plan to collect, track, and internally disseminate BPC data and (b) analyze programmatic factors correlated with BPC increases to apply to targeted programs, by Fall 2023.

G2: Each year, at least 50% of full-time faculty will create or contribute to key college activities, outlined in activities (below) and in an internal repository of activities maintained by the BPC advisory committee, to increase participation and engagement of women and BIPOC students in all Khoury degree programs.

3. Activities

A1 (G1, G2): Participate in advisory committee of faculty, staff, and students to guide evaluation related to college BPC activities, assessment of programming, and development of best practices for the college (Laney Strange and Sarah Maravetz).

A2 (G1): Survey of all faculty across the network of campuses to assess their knowledge of best practices and participation in broadening participation and DEIAB activities. (Taryn Tessari)

A3 (G1): Create mechanism for consolidating and tracking BPC and DEIAB data and establish a data repository accessible to faculty and key staff. (Alex Grob)

A4 (G1): To disseminate BPC data, collaborate with college leadership (dean, etc.) to create college-wide communication on DEIAB activities and BPC impact, such as a Town Hall or Dean's State of the College (Beth Mynatt and Mary French), or a college-wide activity across all network campuses (Andrea Stith).

A5 (G2): Design and implement learning activity or experience for faculty to increase awareness and effectiveness of teaching and mentoring methods related to diversity, inclusion, and broadening participation. (Ben Hescott)

A6 (G2): Design and implement activity to broaden undergraduate participation and engagement (see repository of related activities, such as Combined Majors, student clubs, and REU/DREUs) and K-12 pipeline (such as NU's SMASH academy). (Laney Strange and Jane Kokernak)

A7 (G2): Design and implement activity to increase MS student participation in research-related and professional development learning opportunities (see repository of related activities, such as Khoury MS Research Apprenticeship, DREAM, skills workshops and seminars, and Pathway to PhD) to increase representational diversity in the PhD pipeline. (Caitlin Kidder)

A8 (G2): Design and implement professional development activities and experiences to raise PhD students' awareness of broadening participation and prepare them to lead in CS careers, including industry, academia, non-profits, and government (see repository for activities, such as journal club and PhD mentoring series). (Kellie Melchin)

4. Evaluation

Progress toward our two BPC goals will be assessed by tracking, evaluating, and communicating results of the activities described above (A1-8). There will be quarterly reports of progress of the BPC advisory committee (Laney Strange); data collection, tracking, and dissemination planning and implementation (Andrea Stith); the survey of faculty participation in broadening participation activities (Taryn Tessari); and preparing the Dean's annual communication to the college on DEIAB progress and BPC impact (Mary French). In addition, tracking each semester (fall, winter, summer) will summarize the number and demographics of students reached by BPC activities, compared with the number and demographics of student enrollments in Khoury college, Northeastern University and national data (Sarah Maravetz).