

**Departmental BPC Plan**  
**Department of Computer Science**  
**University of Chicago**



**Effective dates of Plan:** 01/13/2023- 01/13/2025

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**Mission:** The University of Chicago Computer Science Department's BPC mission is to develop interest in computer science, increase access to computer science and foster an inclusive educational environment where students from all backgrounds can achieve their highest potential. We will realize this mission by leveraging existing, strategic collaborations to engage faculty in a continuum of activities for students from high school to graduate school across the four goals described below.

**Context:** Chicago is a minority-majority city and home to the third largest public-school system in the nation (>360k students, 83% Black or Latinx, and 77% lower socio-economic status). This context provides a tremendous opportunity for expanding engagement with local communities and increasing diversity in CS. Given the state of diversity in CS, small absolute changes will make big impacts. As of the 2022/23 academic year at UChicago CS, 16% (79 out of 496 students) of undergraduate majors and <3% (<5 out of 187 students) of PhD students are Black or Latinx; 29% (145) of undergraduate majors and 22% (41 of 187) of PhD students are women. Given this context, we have four major goals for our department.

Hank Hoffmann, BPC lead, serves as the contact for all activities.

**G(goal)1:** *Maintain an EDI Committee that will produce a yearly report while meeting at least three times a quarter and include at least 2 faculty and at least one each of instructional faculty, staff, and PhD Students.* To accomplish this goal, faculty can participate in the following specific activities:

**A(ctivity)1a:** Serve on the committee, attend meetings, propose EDI initiatives, and contribute to the report.

**A1b:** Form an additional committee to work with the University of Chicago's Physical Sciences Division and Data Science Institute to understand the required administrative and staffing support for EDI, BPC, and community outreach efforts. The committee will be established by June 2023 and produce a report on how best to support these efforts by January 2024.

**G2:** *By the end of 2024, at least 10% of faculty will have participated in the existing Collegiate Scholars Program (CSP) or the Office of Special Programs (OSP) activities.* These programs currently reach over 250 students, three-quarters of whom are Black or Latinx and are from low income households and/or will be first-generation college students. Two-thirds of the students are female. Students attend these multi-year programs throughout high school and they have been very successful, with more than 95% of participants enrolling at a university. However, only five of 145 OSP graduates from 2015-2020 indicated they would pursue a Computer Science (CS degree).

CS faculty will infuse missing CS components into the programs through the following activities:

**A2a:** Faculty will participate in faculty-led college readiness seminars focused on student CS interest and self-efficacy using topics of relevance to the students.

**A2b:** Faculty will lead or co-lead CS career awareness workshops.

**A2c:** Faculty will lead an age appropriate special-topic course and supervise research internships that will enable students to engage in CS and contribute to students' self-efficacy and pursuit of CS in college.

**A2d:** Informed by the existing system that tracks students' participation in these programs over the long term, faculty will develop infrastructure to track student persistence (i.e. repeated participation in activities). This system will be extended to tracking undergraduate and graduate students as well.

**G3:** *By the end of summer 2024, at least 10% of faculty will sponsor either an academic year or summer research opportunity for an undergraduate student identifying as Black, Latinx and/or female.* Summer internships will leverage an existing summer data science research program that includes student mentors

and preceptors who work to ensure that students develop knowledge, confidence and skills for collaborating on research projects.

Specific faculty activities include:

**A3a:** Organize and lead public training sessions (introduction to the research process) and advertise these sessions through student affinity groups (e.g., the local ACM-W chapter). These will include an overview of CS research as well as pitches of specific projects for which faculty are looking to recruit students.

**A3b:** Sponsor research internships for undergraduate students identifying as Black, Latinx, and/or women.

**G4:** *Increase number and satisfaction of PhD students identifying as Black, Latinx, and women.*

This broad goal has several sub-goals:

**G4a:** *Visit at least 6 minority serving institutions by January 2025, with a focus on communicating the department's EDI efforts.*

**G4b:** *Have at least 10% of faculty participate in the Discover UChicago program annually.*

**G4c:** *At least 10% of faculty participate in inclusivity training by 2025.*

**G4d:** *Conduct at least 8 hours of faculty-led listening sessions in each academic year to understand the experiences of PhD students from historically under-represented groups.*

To accomplish these goals, faculty can participate in the following activities:

**A4a:** Visit minority serving institutions and give a research talk.

**A4b:** Work with the EDI committee to become active participants in the Discover UChicago program by actively recruiting and then hosting student visits.

**A4c:** Participate in the provost's existing inclusivity training programs.

**A4d:** Participate with the EDI committee in listening sessions and co-author report to department on findings and suggestions for improving students' sense of belonging.

**Evaluation and Measurement:** Outlier Research & Evaluation at the University of Chicago will evaluate the BPC Plan. Outlier staff have decades of experience conducting evaluations of STEM education programs that aim to broaden participation. Outlier will use mixed methods to conduct a process evaluation and a formative evaluation as part of a continuous improvement process. For Goal 1, Outlier will track occurrences of committee meetings, review meeting agendas, and track progress on recruiting an EDI coordinator. For Goal 2, Outlier will create questionnaires focused on attitudes toward computing including self-efficacy, interest and career awareness. Questionnaires will be customized for each activity and be analyzed to examine change and growth in participants' attitudes. We will enter data into the tracking system described above. Outlier will also conduct at least one student focus group for each: the seminars, workshops and courses. For Goal 3, Outlier will administer questionnaires pre- and post- research experiences and conduct interviews and/or focus groups in order to understand the experiences of students from groups historically underrepresented in CS, with an initial focus on Black, Latinx, and women students. For Goal 4, Outlier will track recruitment activities and conduct at least 5 interviews with students from groups underrepresented in CS who participated in the listening sessions. Finally, Outlier will collaborate to administer the Computing Research Association's Data Buddies survey targeting a minimum 70% response rate and include findings in the ongoing evaluation improvement process. Outlier will meet quarterly with the EDI committee and other faculty as needed.

**Summary:** Research shows that sustained engagement plus a support network creates real change for increased and meaningful diversity. The proposed high school and research internships follow this model and it is implicit in the graduate student recruiting and retention. Faculty training (including mentor training) will reinforce these principles and make the long-term relationships more powerful. ***By connecting to this plan in their proposals, faculty are agreeing to participate in the planned activities and training as well as proactively report outcomes related to the specified SMART goals to the BPC Coordinator and Outlier Research & Evaluation.***