

**Departmental BPC Plan
School of Computing
DePaul University**



Effective dates of Plan: 07/05/2023 - 07/05/2025

Contact: Ljubomir Perkovic, Professor and School Director, lperkovic@cs.depaul.edu

1. Context

The School of Computing (SoC) is the largest (departmental level) unit at DePaul University with more than 1,400 undergraduate and 1,600 graduate students enrolled in AY 22/23. The school offers eleven undergraduate (UG) and twelve graduate (GRAD) computing programs, including programs in Computer Science (CS), AI, Cybersecurity, Data Science, Human-Computer Interaction, and Information Systems. A decades-old feature of our graduate programs is that they are accessible to students with a non-computing bachelor's degree and include additional introductory coursework for such students.

This departmental plan focuses on broadening participation in computing to women and to the following under-represented populations (URPs): domestic students who identify as Black, African American, Hispanic, Latino, American Indian, Alaska Native, Native Hawaiian, and/or Other Pacific Islander. DePaul University and the School of Computing are part of the fabric of Chicago and the admitted student body reflects Chicago's diversity. The proportion of domestic students admitted into DePaul that are from URPs (37% for UG and 35% for GRAD in Fall 22) matches the diversity of the Chicago Metro area (42% from URPs) and the same is true for SoC (38% for UG and 37% for GRAD). With a current GRAD student population that is 39% female, SoC is contributing to broadening the participation in computing to women. This percentage, while high, is lower than the percentage of female GRAD students at DePaul overall (56%) and the difference for the UG student population is greater (28% vs. 55%).

While the diversity by race and ethnicity of the admitted SoC student population matches that of the university and Chicago metro area, the same is not true of the SoC graduates population. We have data to document gaps in performance, but have not yet identified root causes. For Computer Science, the largest program at both the UG and GRAD levels, the UG six-year graduation rate is 37% for students from URPs admitted in three recent AYs and 50% for white students, while the GRAD four-year graduation rate is 17% for students from URPs vs 38% for white students. Students from URPs disproportionately earn D/F/W grades in introductory and core CS classes: 35% and 28% for undergraduate Intro to CS I and II courses, respectively—vs 19% and 12% for white students—and 46%, 49%, and 39% for GRAD Intro to Programming, Data Structures I, and Systems I courses, respectively—vs 18%, 25%, and 24% for white students. The D/F/W rate for women is also higher than for men but to a smaller degree. We note that these CS courses are required by many other SoC programs and that an intervention in those classes would impact many SoC degrees and most SoC students.

2. Goals, Activities, and Measurement

G1: BPC data collection and dissemination: Create and implement an annual systematic BPC data collection and reporting plan by AY 25/26.

A1a: Develop surveys or identify, and potentially modify, existing surveys and specify data (on student/faculty recruitment, retention, climate, and student graduation) we will collect (SoC Community Building Committee).

A1b: Collect BPC data and share a yearly report with the SoC faculty (SoC Director).

M1: Track data that was collected and that the yearly report is completed and shared.

G2: Enroll more women: Increase by AY 25/26 the percentage of female students at the undergraduate level by 5% and at the graduate level by 2%.

A2a: Coordinate computing outreach programs for high schools and community colleges to recruit women/girls (SoC Community Building Committee).

A2b: Coordinate outreach to communities/chapters of programs that have computing activities for women/girls such as WiCyS, Girls who code, Kode with Klossy, Black Girls Code, and Brilliant Black Minds (SoC Community Building Committee).

A2c: Expand pathways into computing through programs that have been shown to increase participation of women in computing like CS+X and encouraging women to add computing minors or combined (BS/MS) degrees (SoC Curriculum Committee).

A2d: Identify female students who perform well in IT courses that are offered to non-majors and reach out to them to determine whether further computing coursework, a computing minor or major, or a CS+X program would be of interest to them (Math & Computing Liberal Studies Program (LSP) domain chair).

M2: Track results of above activities and whether the goal is being met.

G3. Study how to improve success of students from URPs in intro and core CS classes: Identify ways to increase the percentage of students (grad and undergrad) from URPs who pass CS core classes (intro to CS, data structures, and systems) by AY 25/26.

A3a: Obtain data via surveys/interviews to understand possible causes of the problem (SoC Community Building Committee and CS Program Committee).

A3b: Research successful initiatives at other institutions and investigate whether their solutions could be applied in our context (SoC Community Building Committee and CS Program Committee).

A3c: Promote CSC 281 Intro to Java as bridge between CSC 242/243—Intro to CS courses—and CSC 300—Data Structures I (CS Program Committee).

M3: Track progress of above activities and whether they will lead to a plan for improving success rates for students from URPs in CS intro and core classes.

G4. Inclusion and belonging: Increase the sense of belonging among students from groups underrepresented in computing by AY 25/26.

A4a: Faculty will join the Community Building Committee and engage in its BPC-focussed activities that aim to strengthen student organizations, oversee community events and activities, support physical and online community spaces, and support the Grace Hopper Celebration (SoC faculty).

A4b: Faculty with NSF funding will request REU supplements for women and students from URPs, recruited with support from faculty teaching undergraduates (SoC Director and Research Environment and Scholarship Committee).

A4c: Build SoC Central online community space with a focus on women and students from URPs (SoC Community Building Committee).

M4: Track the execution and results of above activities including student satisfaction as measured via internal surveys and the Data Buddies survey.

G5. Faculty recruitment: Ensure that representation of faculty applicants from URPs in computing exceeds their representation in the last 3 years of National IPEDS Computing PhD graduation data.

A5a: Review outlets for our job postings and ensure that they include organizations that focus on URPs (Recruitment Committee).

A5b: Share our job postings with institutions that are successful at recruiting, retaining, and graduating a PhD students from URPs (Recruitment Committee).

A5c: Invite area PhD students from URPs to speak at a colloquium or seminar (Research Environment and Scholarship Committee).

M5: Track the execution and results of above activities.

G6. DEI/BPC faculty activities: Increase faculty self-reported involvement in DEI or BPC activities every year.

A6a: Faculty participate in DEI CDM committee, SoC Community Building committee, and BPC/DEI events and activities (SoC Director).

A6b: Faculty participate in BUILD Diversity Certificate program and workshops focused on inclusive teaching. (SoC Director and SoC Community Building Committee).

M6: Track faculty participation and the percentage of faculty involved in some DEI/BPC activity.