Departmental NSF BPC Plan
Computer Science and Engineering
University of South Florida (Tampa, FL)

Effective dates of Plan: 08/13/24 – 08/13/2026
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1. Context

The University of South Florida (USF) is a large multi-campus urban R1 university with almost 50,000 students located in the vibrant Tampa Bay area, with campuses in Tampa, St. Petersburg, and Sarasota-Manatee. The table (below, left) shows the demographics of the CS students in Fall 2023, compared to the demographic across the campuses.

Student Demographics (Fall 2023)	USF		CSE (UG)		CSE (G)	
Gender*	**M**	**F**	**M**	**F**	**M**	**F**
African American/Black	<5%	6%	5%	<5%	7%	<5%
Hispanic	10%	14%	18%	<5%	21%	5%
Asian	<5%	5%	14%	6%	11%	<5%
Native American /Pacific Islander	<5%	<5%	<5%	<5%	<5%	<5%
White	20%	29%	34%	7%	39%	8%

Degrees Awarded (AY 22-23)	CSE (UG)		CSE (G)	
Gender*	**M**	**F**	**M**	**F**
African American/Black	5%	<5%	5%	<5%
Hispanic	17%	<5%	24%	<5%
Asian	13%	7%	10%	10%
Native American/ Pacific Islander	<5%	<5%	<5%	<5%
White	38%	7%	24%	5%

The Computer Science and Engineering (CSE) department at USF currently has 47 full-time faculty members (tenure-track and instructors) of which 11 are women, and offers BS, MS, and PhD degrees. CSE has four undergraduate degree programs – Computer Science, Computer Engineering, Cybersecurity, and Information Technology. In AY 2022-23, CSE awarded 487 degrees; 407 undergraduate degrees, and 80 graduate degrees; the table (above, right) shows the distribution of degrees. Our entry level courses show gender differences in pass rates; in AY 2022-23, CS1 had a passing rate of 79%; 75% women and 81% men, and CS2 had a passing rate of 70%; 62% women and 72% men.

2. Goals

This plan describes our strategy to sustain our NSF BPC mission, which is to ensure that computing is accessible to everyone. The plan also aims to enhance faculty engagement in BPC activities.

G1: Supported by staff, faculty members will annually gather, monitor, and internally share BPC data. Furthermore, they will thoroughly analyze factors associated with BPC across all degree programs.

G2: To lead the world in innovation, we need to give students from all backgrounds the opportunity to participate in computing. Each year, at least 60% of CSE faculty will create or contribute to activities that will be maintained by the BPC Committee to create a welcoming environment that fosters increased participation and engagement of students of all backgrounds, perspectives and life experiences, including but not limited to students from underrepresented groups as defined by NSF (women, students from low income families/unmet financial need, persons with unique abilities/disabilities, veterans, African American, Hispanic, and Native American students), as well as Pell grant recipients, first generation or non-traditional students and "2+2" transfer students from the Florida College System, in all degree programs.
G3: The CSE department will improve retention in our degree programs until retention rates reach least (80%) for students from all backgrounds.

3. Activities

A1: Pedagogical Efforts (G1, G2, G3). As a partner institution of the Center for Inclusive Computing, faculty can implement the course redesigns that broaden participation and maintain consistency among sections in entry-level courses. Faculty can also implement inclusive teaching practices in other courses. **Measurement**: Tracking use of evidence-based inclusive teaching approaches; Collection of enrollment and retention data in entry-level courses; Collection of student feedback via end-of-semester surveys. **Contact**: Schinnel Small and Jing Wang.

A2: Data collection and Analysis (G1). With the assistance of staff, faculty can gather data on student enrollment and retention, in all majors in Computer Science and Engineering per semester. **Measurement**: Collection and visualization of data to be recorded via internal dashboard and reported during annual faculty retreat. **Contact:** Ken Christensen, Michelle King and Schinnel Small.

A3: Pathways to Computing (G2). To broaden participation in our CS Master's Program**,** faculty can engage with students from non-computing disciplines through the MSCS New Pathways Consortium. **Measurement**: Faculty participation in the Consortium; enrollment data disaggregated by gender and race/ethnicity. **Contact:** Jing Wang.

A4: Interdisciplinary Computing Degree Plans (G2). To attract a broader range of students to computing, faculty can assist with the integration of computing into interdisciplinary plans, resulting in the launch of at least 3 new CS + X degrees by 2026. **Measurement:** Number of faculty participating in plan development. **Contact:** Jim Anderson, Ken Christensen, Sudeep Sarkar and Jing Wang.

A5: Outreach to K-12 and community college students (G2). Faculty can participate in outreach to K-12 and community/state college students through activities and events designed to increase access and broaden participation in computing**. Measurement:** Number of faculty involved in K-12 or community college outreach; number of students reached. **Contact:** Gene Kim and Yili Ren.

A6: REUs (G2, G3). Faculty can provide opportunities for research and mentorship, implementing best practices for mentoring that support students from all backgrounds. **Measurement:** Number of faculty and students who participate in undergraduate research. **Contact:** Mehran Mozaffari Kermani and Attila Yavuz.

A7: TA training (G2, G3). Faculty can assist with managing, updating and instruction of the department's TA training course to incorporate training of practices that support BPC. **Measurement:** Number of faculty participating in TA training; Student evaluations of TAs in courses. **Contact:** Schinnel Small.

A8: Proactive advising (G2, G3). Faculty can become educated on and utilize best practices for advising that support BPC, to ensure that students maintain success in their courses and their matriculation plans. **Measurement:** Collection of data including number of students contacted, courses, response rate and final grades of contacted students. **Contact:** Jing Wang, Stacey Sepulveda.

A9: BPC Advocacy and Recognition (G2). Faculty can serve on the BPC award committee to recognize and celebrate colleagues who promote BPC principles in their courses and the department. **Measurement:** Service hours of faculty in award committee; Annual faculty survey of BPC activities. **Contact:** Sudeep Sarkar, Schinnel Small.

A10: Collaboration with student organizations and industry partners (G2, G3). Faculty can engage in and support the ongoing activities of student organizations such as WICSE, SWE, NSBE, and SHPE, as well as collaborate with industry sources (managed by the Computing Partners Program) to facilitate their travel to competitions and conferences for professional development. **Measurement:** Number of faculty serving as student advisors or connecting with industry contacts. **Contact:** Ken Christensen.

A11: Support of low-income students (G2, G3). External grant support of low-income students (as defined by unmet financial need on FAFSA and which includes–students from groups that are underrepresented in computing) for scholarships from government agencies (e.g., NSF S-STEM) and corporate donations (e.g., major employers of CSE graduates). **Measurement:** Number of faculty involved, and number of scholarships secured. **Contact:** Ken Christensen.