

Departmental BPC Plan
Department of Computer Science
University of Central Florida



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

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1. Context

The University of Central Florida (UCF) is a large and leading public metropolitan research university, located in Orlando. There were 52 faculty members (in Fall 2022): 44 men and 8 women. The enrollment in the degree program in the department of Computer Science (CS) in the College of Engineering and Computer Science (CECS) based on fall 2022 data (from UCF's Interactive Facts webpage) are shown in the table below, with **red** indicating percentages below UCF's, **green** indicating percentages above UCF's, and **black** indicating percentages within 0.1% of UCF's.

	Undergraduate %						Graduate %					
	UCF Female	UCF Male	CECS Female	CECS Male	CS+IT Female	CS+IT Male	UCF Female	UCF Male	CECS Female	CECS Male	CS Female	CS Male
American Indian/Alaskan Native	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.0	0.1	0.0	0.0
Asian	6.7	8.0	2.4	10.8	21.5	14.8	4.6	6.3	7.5	7.5	4.9	8.6
Black/African American	11.0	8.1	1.8	7.1	12.0	8.0	12.3	7.9	6.9	4.7	7.6	3.7
Hispanic/Latino	30.7	28.5	5.6	28.1	26.0	27.0	19.6	19.3	17.5	18.3	8.6	13.6
International	3.0	3.8	0.9	4.2	4.8	3.5	7.6	18.1	33.9	31.0	56.2	43.5
Multi-racial	4.6	4.5	0.8	4.6	5.4	5.2	3.4	3.7	3.0	2.3	4.3	1.0
Native Hawaiian/Other Pacific Islander	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.0	0.0
Not Specified	0.8	1.0	0.2	1.1	1.0	1.2	1.2	1.0	1.4	0.7	0.5	0.8
White	42.9	46.0	7.3	43.9	29.1	40.1	51.1	43.6	29.8	35.4	17.8	28.7
All Students	54.8	45.2	19.0	79.4	18.7	81.3	60.3	41.1	24.8	75.2	27.5	72.5

As can be seen from this data, the largest gap between UCF's enrollment percentages and those of the department's degree programs are for women and Black/African American undergraduate students and Black/African American and Hispanic/Latino graduate students, so these are our target groups. Data on degrees awarded tell the same story.

2. Goals

G1: By Fall 2025, increase the enrollment of women in undergraduate majors to at least 20% of all undergraduate majors in the department and increase the enrollment of Black and Latina women students to equal the percentage of their male counterparts. [BPC Committee]

G2: By Fall 2024, increase the involvement of Black and Hispanic undergraduate students in REU programs by 10%. [BPC Committee]

G3: By Fall 2024, the use of peer instruction in CS courses will be at least 10% of all sections offered by the department [CS curriculum committee (CORC) and BPC Committee]

G4: By Spring 2025, report on the effectiveness of introductory course curriculum changes via DFW rate of the target undergraduate groups for the first required major course and by rates of their persistence through CS2 (COP 3503). [Data and BPC Committees]

In sum, the lack of women is directly addressed by G1. Goal G2 aims to improve participation in our graduate programs among Black and Hispanic students in the long run. Goals G3 and G4 also address increasing participation in the target groups by improving instruction for all students.

3. Activities and Measurement

Faculty can volunteer for (or select for an NSF proposal) any of the following activities. (The BPC data committee and the departmental BPC committee will be created by the department, so that faculty can join these committees when desired.)

A1: Actively **participate in the BPC data committee**, which is responsible for collecting disaggregated data on how underrepresented groups are faring in our programs and activities and informing the faculty at least yearly about issues and trends in our BPC efforts. G1, G2, G3, G4. [Gary Leavens] [Measurement: reports given yearly.]

A2: Actively **participate in the department's BPC committee**, which is responsible for monitoring and guiding the department's BPC efforts, including updating the department's plan as needed (to keep it current) and reporting annually to the faculty about BPC efforts. G1, G2, G3, G4. [Damla Turgut] [Measurement: Number of faculty participating, number of meetings, annual reports.]

A3: **Host an REU student** from a target undergraduate group through partnership with the GEMS, EXCEL, iAAMCS, Access Computing, Distributed Research Experiences for Undergraduates, CAHSI or Google. See NCWIT's REU in a Box site for resources. G2. [Gary Leavens] [Evaluation: number of students from target groups hosted each year.]

A4: **Teach computer science topics to high school students at regional schools with large populations in target groups** and encourage students to participate in either Junior Knights (which teaches students to code) or other CS-related activities, such as joining the NCWIT Aspirations in computing community. G1. [Arup Guha] [Measurement: Data from the NCWIT entry to college survey given to incoming students.]

A5: **Teach** in the CS or IT curriculum **using peer instruction teaching materials** from peerinstruction4cs. Peer Instruction is an interactive pedagogical approach where students prepare for lectures by reading relevant material, then attend lectures prepared to discuss with peers and the instructor. The PI will share evaluation data from the Activity Evaluation with the BPC data and evaluation committee in the second and third year of their teaching. G1, G3 [Gary Leavens] [Measurement: number of courses taught using peer instruction, improvement to UCF Student Perception of Instruction evaluation reports after using peer instruction.]

A6: **Organize and host an undergraduate research workshop**. Undergraduate students from ACM-W, the NSBE, CAHSI or Camp Connect groups come to campus for a few days in summer to get a taste of research and meet faculty. See NCWIT's REU in a Box site for resources. G2 [Gary Leavens] [Measurement: number of students and faculty participating each summer.]

A7: **Organize social events for students in target groups**. These events could include faculty members and might be organized with existing student clubs or groups, such as ACM-W, NSBE, CAHSI, or Girls who Code. G1 [Damla Turgut] [Measurement: number of faculty involved, number of events organized and count of students in target groups involved.]