

Departmental BPC Plan
Department of Computer Science
Texas Tech University



Effective dates of Plan: 08/23/2023-08/23/2025

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1. Context

Texas Tech University (TTU) is a federally recognized Hispanic Serving Institution (HSI) and is ranked as a Tier One Carnegie Research Institution. The Department of Computer Science (CS) seeks to broaden participation in its undergraduate and graduate programs.

The CS, College of Engineering, and TTU undergraduate student populations are shown in the Fall 2022 enrollment table. Comparatively, CS is above the College and University in the percentage of African American students, but lower than the College and University in the percentage of female and Hispanic students. As of Fall 2022, CS has 95% international and 5% domestic graduate students where 27% are Women (23% college and 60% university), 27% are Hispanic (19% college and 23% university), and 10% are African American (6% college and 6% university). The Computer Science department currently has 17 tenure-track or tenured faculty members and three instructors as of Spring 2023.

Fall 2022 Enrollment of UG students			
Level	CS	College	TTU
# of Students	316	4,622	32,729
% of Female	17.1	17.2	49.1
% of Hispanic	24.7	29.0	28.9
% of African American	8.2	7.2	6.0

2. Goals

G1: Data Collection. Annually, create and share a report on departmental demographics.

G2: Faculty BPC Activity Participation. Annually, at least 80% of faculty participate in at least one BPC activity, as reported in the faculty annual evaluation reports.

G3: Student BPC Activity Participation. By 2026, measure and increase the number of students from underserved populations reached by BPC activities.

3. Activities and Measurement

A1: Data collection and sharing (G1). Faculty from the BPC committee will collect, aggregate, and share demographic data in one departmental meeting each semester. Measurement: tracking what data was collected, analyzed, and shared with faculty. (BPC committee chair)

A2: Local K-12 outreach (G2, G3). Faculty will actively participate in existing and new outreach programs at TTU that are intended to broaden participation in computing. Existing programs include K-12 Tech Savvy (a one-day STEM Conference designed for 6th through 8th grade students) and Girls Who Code. New programs may include faculty organizing a yearly outreach program to K-12 teachers, counselors, students, and parents of students in local schools to prepare students for CS. Measurements: # of faculty participants, # and demographics of students/schools involved. (BPC committee chair)

A3: Undergraduate research (G2, G3). Faculty will recruit scholars from the Louis Stokes Alliances for Minority Participation (LSAMP) and the McNair programs to participate in their research. Measurement: # of LSAMP and McNair scholars doing research under CS faculty. (BPC committee chair)

A4: Undergraduate research workshop (G2, G3). Faculty, in collaboration with the STEM-Core office at TTU, will host a weekend research workshop to encourage students from underserved populations to pursue a master's degree or Ph.D. degree. Measurements: # of students who participated, # of LSAMP and McNair scholars who attend, # of students who pursue a master's degree or Ph.D. (Departmental Chairperson)

A5: TA workshop (G2). Faculty will incorporate curriculum material from the Center for Inclusive Computing (CIC) BPC curriculum into our mandatory TA workshop. Measurement: Materials incorporated into the course, # TAs in the course, feedback from the TA workshop at the end of the semester. (Graduate Program Coordinator)

A6: Student organizations support (G3). Faculty will serve as advisors to work to broaden participation in student groups, such as the Association for Computing Machinery, Google Developer Student Club, RaiderHacks, Society of Women Engineers, Society of Hispanic Professional Engineers, and National Society of Black Engineers. Measurement: # and demographics of CS students in student organizations, # of faculty advisors. (BPC committee chair)

A7: Conference attendance (G3). Faculty will encourage students to attend conferences, such as the SWE/SHPE/NSBE, Tapia, and Grace Hopper Celebration conferences, help students obtain funding to attend conferences, and accompany students who attend. Measurement: # of students and faculty who attend these conferences. (BPC committee chair)

A8: Industry/academia workshop (G2, G3). Faculty will organize a workshop presented by alumni working in industry or academia, who will serve as role models and share examples of real-world applications of computing. Faculty will recruit presenters, promote the event to students, and ensure that the workshop facilitates students' understanding of careers in industry, research, and academia. Measurements: # of faculty who participate, # and demographics of student attendees, # and demographics of presenters. (UG Program Coordinator)

A9: Graduate student recruitment (G3). Faculty will work to increase the number of domestic students from underserved populations in our accelerated BS-MS and our doctoral program by leveraging social networks, online forums, conference attendance, and connections with current undergraduate students. Measurements: # of faculty who participate, # of UG students reached, demographic stats of graduate students. (Departmental Chairperson)

A10: External climate survey (G1). Faculty will coordinate student participation in the Data Buddies Survey and disseminate insights into the department climate for students. Measurements: # of students who participate, measures from the survey. (Departmental Chairperson)

A11: Teaching audit (G2, G3). Faculty will assess their own teaching using the "The Teaching Practices Inventory" (Wieman & Gilbert, 2017) to identify changes that would better support inclusive teaching, and then implement those changes. Measurements: # of faculty who participate, # of courses where changes are implemented. (BPC committee chair)